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I

THE ROYAL COMMISSION ON SECONDARY EDUCATION

The principal educational event of the autumn in England has been the appearance of the report of the Royal Commission. It may be remembered that in 1864–68 a commission was engaged in investigating the condition and resources of intermediate and higher education in England, and especially the state of the endowed grammar schools; many of which had been established in the fifteenth and sixteenth centuries for the purpose of giving instruction in Latin and Greek, but had fallen into a lamentable state of decay and uselessness. That commission was presided over by Lord Taunton, and included in it men of the highest distinction in Church and State,—Lord Lyttelton, Mr. Forster, Dr. Temple (now Bishop of London), Lord Stanley, Sir Stafford Northcote, and Dean Hook,—while among the assistant commissioners were Dr. Fraser, Mr. Matthew Arnold, and Mr. Bryce. Their report was exhaustive and statesmanlike, and had a profound influence on public opinion. The detailed evidence, statistics, and *pièces justificatives* extended to twenty volumes; but the first volume, containing the report and recommendations of the commissioners, is still regarded by all experts as the most trustworthy summary of the history of secondary education up to 1866, and as a document of unusual merit, whether regarded as an exposition of principles or as a compendium of practical suggestions.

Nevertheless, except the enactment of the statute of 1869, which provided a permanent authority for the reorganization

of educational endowments, no legislative step has been taken to carry into effect the recommendations of the commissioners. Meanwhile, many new agencies have been called into existence. The universities have shown great activity in helping secondary schools by means of their examinations for pupils and teachers, and also by their "Extension" lectures. The Science and Art Department has applied large annual sums to the encouragement of special studies. New provincial colleges of university rank have sprung up at many of the chief centers of industry. The Girls' Public Day School Company and other proprietary bodies have familiarized the public with schools of a higher and more liberal type; professional associations have been formed, with a view to secure higher qualifications and a better status for teachers; the county councils have been intrusted by Parliament with large sums for the promotion of technical education; and the Education Department itself, though legally concerned only with the administration of a large annual grant for *elementary* education, has of late interpreted its obligations in a very liberal spirit, and by the encouragement of higher grade board schools for pupils from fourteen to sixteen years of age, who have completed the ordinary elementary course, has done much to meet the demand for advanced studies on the same lines, and so encroached, in some respects, on the domain of secondary instruction.

In these circumstances, it has been generally felt that, after an interval of nearly thirty years, there was room for a further inquiry, which, taking the report of 1868 as its basis, should deal historically with the subsequent development of secondary instruction, and should furnish practical recommendations respecting the measures which were desirable for its future extension and improvement.

Accordingly a Royal Commission was nominated in March, 1894, with instructions:

"To consider what are the best methods of establishing a well-organized system of secondary education in England, taking into account existing deficiencies, and having regard to

such local sources of revenue from endowment, or otherwise, as are available, or may be made available for this purpose, and to make recommendations accordingly."

There were at the outset some who expressed disappointment at the constitution of the commission. They compared, not very favorably, the *personnel* of the new commission with the eminent men who had served with Lord Taunton in 1865. They dwelt on the fact that accident had placed the responsibility of framing the list in the hands of a vice-president of the council who was comparatively new to official life, who had adopted a less satisfactory principle in selecting the members, and had, in fact, packed the commission with advocates, rather than with judges. Except Mr. Bryce, the chairman, it was urged, there was no one of the statesman's rank, and no one intimately conversant with the work and procedure of the former commission. Almost every other member was a representative of some professional class, some party or institution. The members comprised representatives of Oxford and Cambridge, of the school boards, and of the county councils, the head-masters of a first-grade public school and of an intermediate school, representatives respectively of elementary teachers, of the teachers of science and of technical schools, besides three ladies, specially conversant with colleges and schools for girls. Every one of these, indeed, was judiciously chosen on the theory adopted by Mr. Acland; but, in one sense, each might be described as holding a brief for some special class, and none were in a position of detachment from sectional interests, or specially qualified by official experience, or otherwise, to take a large and general view of the problems which had to be solved. And some regret was also expressed that, even on the supposition that all the interests affected were entitled to a voice, the representation was imperfect; seeing that no private teacher was included in the list, and that all representatives of the churches and of religious societies were conspicuously absent.

Such criticisms, it ought to be said at once, have, however plausible at first, been to a great extent disarmed by the result.

The report now issued is a thoroughly creditable and workmanlike performance, and has the unusual merit that it is unanimous, and unencumbered with minority reports, reservations, or qualifications. The commissioners held 105 meetings, examined 85 witnesses, issued elaborate schedules of questions, instructed assistant commissioners to prepare reports, and have devoted themselves to their task with a skill, diligence, and breadth of sympathy which are entitled to high commendation. Their narrative of the course of events since 1868, and their analysis of the complex, heterogeneous, and often overlapping agencies at present at work in the wide field of secondary education are luminous and accurate; the practical suggestions are bold and comprehensive; and in regard to literary finish and attractiveness, the whole report, though hardly equal to its predecessor, is distinctly above the average of official documents.

American readers, however, who are in search of new educational theories, or of original discussions on the aims or methods of secondary instruction, will not find them in these volumes. There is, for example, no such investigation of the educational values of different studies as is to be found in the two important reports by the Committee of Ten and the Committee of Fifteen; which have received, as they deserved, such general acceptance in the United States. Indeed, the commissioners at the outset modestly disclaim any pretensions to enter upon such topics. They say:

"The terms of our reference have been understood by us to confine our inquiries to the organization of secondary education, and not to include either an examination and description of the instruction now actually given in secondary schools, or a consideration of what subjects such instruction ought to cover and by what methods it should be given."

In pursuance of this intention the commissioners first devote a large space to a full and careful description of the present condition of secondary education in England. They show that the existing provision includes endowed grammar schools, proprietary schools, higher grade elementary schools, and private

schools; that it is unequally distributed over the country; that in some places the supply of secondary education is inadequate, and that institutions of these various kinds exist independently, without correlation or organic unity. The commissioners proceed to enumerate the various public bodies which, in their several ways, exercise influence over secondary education—the Charity Commission, the Science and Art Department, the county councils, the Education Department, and the universities. A careful inquiry into the functions and limitations of these several bodies leads to the conclusion that there is considerable activity, and evidence of increasing public demand for advanced teaching; but that there is also some waste of resources, owing to the absence of due *rapport* between the various bodies concerned; and to the want of any central public authority which shall have cognizance of the entire field of work.

Incidentally the commissioners refer to one or two particulars in which recent years have witnessed a considerable change in public opinion and social habits, and have to some extent simplified the problem which has to be solved. One of these changes may interest American teachers all the more because the sense of republican equality has, with them to a far larger extent than with us, facilitated the mixture of different social ranks in the common school. On this point the commissioners say:

"How far pupils of different social classes can be successfully taught in the same school is still a problem of secondary education with many different phases. It is one which the Schools' Inquiry commissioners fully recognized, and which, in some cases, they even regarded as insoluble. Thus, when they remark that 'in a small town dealing with its own limited population, the inherent difficulties of combining a thorough classical with a thorough commercial education appear insurmountable'; the first reason assigned is 'sensitiveness on the subject of mixture with boys from lower ranks of society because they are neighbors as well as schoolfellows.' In the interval of twenty-seven years which have elapsed since these

words were written, the social difficulty, as it is sometimes called, has become less on the whole in many places, partly through general social causes, partly through causes connected with the newer development of education. . . Speaking generally, it is at great centers of population, especially in the north of England, that the social difficulty most decidedly tends to diminish. In many small towns and rural districts it still exists in considerable strength, and is likely to die hard. . . As might have been expected, the resolve to avoid contact with social inferiors is usually most inflexible where the social distinction is narrowest."

Among other symptoms of the improved state of public opinion since 1868 the commissioners refer to the greatly increased demand for the means of liberal education for girls, the more general recognition of the need for the professional training of teachers, the recent rise of university colleges in the great provincial towns, and the higher value now set on technical and scientific instruction, not as distinguished from literary studies, but as necessary and integral parts of secondary education. On a review of all these phenomena the commissioners say:

"The problem which the facts suggest is more easily stated than solved; it is, in a few words, how to provide a single central authority which shall supervise the interests of secondary education in England as a whole; to provide local authorities representative in the most complete sense, which shall in their respective areas regard those interests with a similarly comprehensive view; and reserving a large freedom for such local authorities, to reconcile the ultimate unity of central control with a system sufficiently elastic to meet the almost infinite variety of local requirements."

The first of the practical recommendations with which the report concludes, relates to the constitution and work of the *central authority*. This should, they say, be a department of the executive government presided over by a minister responsible to Parliament, and obviously the same minister to whom the charge of elementary education is intrusted.

This minister should have the oversight of all the work now done by the Charity Commission so far as the administration of the Endowed School Acts is concerned, and also of the Science and Art Department. In brief, the functions of the central department "will include a general oversight of the acts of such local authorities as may deal with secondary education, the supplying of information and advice to those authorities, the power of framing or approving schemes for the reorganization of endowments and rules for the application of public funds, the deciding of appeals from local authorities, together with some measure of jurisdiction over those important educational foundations which, being used by the country generally, cannot properly be subjected to local jurisdiction. And to these duties will be attached that of framing and maintaining a register of qualified teachers." It is assumed that most of the work to be assigned to the Education Department, thus expanded, would be dispatched by the minister and his departmental staff in the usual way. But it is further proposed that there be created an Educational Council, analogous in some of its functions to the Board of Admiralty and in others to the General Medical Council; to advise the minister in relation to certain professional questions, and, in particular, to have charge of the registration of teachers.

The constitution of the proposed advisory council is easily described. The commissioners think it should be small, not exceeding twelve members. Of these, they propose that one-third shall be appointed by the Crown, one-third by the four Universities of Oxford, Cambridge, London, and Victoria, and one-third co-opted by the rest of the Council from among experienced members of the teaching profession.

On the more difficult question of the *local authorities*, their constitution, the areas of their several jurisdictions, and their educational functions, the commissioners have much to say. They are evidently conscious that this is the one of their recommendations most likely to provoke discussion. For the duties assigned to the proposed local authorities are large and multifarious, and will include the power to impose, when

necessary, a local rate. The report recommends that there shall be created a local authority for secondary education in every county and in every county borough, that is to say, speaking generally, in all boroughs with a population exceeding 50,000. The size of these county authorities should vary according to the population, but should not, in the opinion of the commissioners, be less than 14 nor more than 42. Taking 28 as the number for one of the larger counties the composition of the body would be as follows: 16 chosen by the county council, 4 nominated by the central office, and the remaining 8 co-opted by the other 20. It is prescribed that several of the nominated and co-opted members should be actually or recently engaged in teaching.

For the metropolis, with its vast population of nearly 5,000,000, and its exceptional circumstances and wants, the commissioners recommend a special local authority of 42 members, of whom 18 are to be appointed by the London County Council, 7 by the London School Board, 2 by the City and Guilds of London Institute, 2 by the trustees of the City Parochial Charities, one each by the Universities of Oxford and Cambridge, and 2 by the University of London. The remaining 9 are to be elected by the other members, and it is required that "some of these shall belong or have recently belonged to the teaching profession, and some be selected from persons possessing special knowledge of London industries, whether as employers or workmen." Provision is also made that on all these local councils women shall be eligible for appointment, and the commissioners give reasons for attaching special importance to this provision.

The powers to be intrusted to the local council are defined to be (1) the securing a due provision of secondary instruction, (2) the remodeling when necessary, and supervision of the working of endowed (other than non-local), schools and other educational endowments. (3) A watchful survey of the field of secondary education, with the object of bringing proprietary and private schools into the general educational system, and of endeavoring to encourage and facilitate, so far as this can

be done by stimulus, by persuasion, and by the offer of privileges and advice, any improvements they may be inclined to introduce. (4) The administration of such sums, either arising from rates within its area, or paid over by the national exchequer, as may be at its disposal for the promotion of education.

It will be observed that the report does not propose the creation of new bodies to be chosen by popular suffrage. It recommends that advantage be taken of the existence of two bodies, which are themselves the product of popular election,—the county councils and the school boards,—and that these bodies shall choose representative members of the new secondary boards. In this way it is believed that these authorities will be in effective touch with the constituencies, and be conscious of a sense of responsibility to the public, without multiplying the occasions, already numerous, for direct appeal to the rate-payers. The presence of a small number of nominees of the Government and of the universities on the local councils is obviously calculated to secure permanence and freedom from local associations, and an element which, though not dominant, may usefully prove influential, even in the most popular bodies.

For both the central and the local authorities, the commissioners have, with commendable courage, recommended, with certain limitations, the method of co-optation. That method was long discredited, and is still regarded with scant favor by many politicians, because in former times bodies of trustees often filled up all vacancies as they occurred with friends and neighbors of their own way of thinking. In such cases, whatever of narrowness—either social or religious—characterized the governing body became strengthened and perpetuated by each new election. The trusts assumed a private character and lost the confidence of the communities for which the charities existed. But it is manifest that in a body of which the majority are popularly elected, co-optation by this body is an indirect form of popular representation, and simply allows the representatives to add to their own number a few others

whose assistance they desire. In every district such persons are to be found possessing distinguished qualifications for usefulness, and yet unlikely, owing to special circumstances, to be directly chosen by a popular electorate. The principle of co-optation, thus guarded and limited, is a valuable one, and the working of it, should Parliament accept the recommendations of the commission, will be watched with great public interest.

The commissioners acknowledge with due gratitude the great help they have obtained from experts and persons possessed of special information in foreign countries. From the United States in particular they received in answer to inquiries valuable memoranda communicated by some of the leading educational authorities, including Presidents Eliot, Gilman, and Angell; Nicholas Murray Butler; Professor Simmons of Iowa; Mr. Quincy Shaw of Boston; Miss Salmon of Vassar, and Miss Thomas of Bryn Mawr. Perhaps one of the most striking statements, and one most likely to attract the attention of English readers, is a sentence in the very full and thoughtful paper of President Eliot to the effect that "the relative influence of private and endowed schools in Massachusetts has increased within the last twenty years. This is partly the effect of the increased heterogeneousness of the population, both as regards race and mode of life. It is partly due also to the fact that the private and endowed schools have established a distinct superiority to the public schools; because they are freer to experiment with new methods of instruction and to adopt methods which prove to be good, and because they spend more money per pupil. In Massachusetts, it has been the private and endowed schools which have adopted most promptly the improvements in education urged upon schools by colleges and universities."

There is here a warning, the significance of which is not likely to be lost upon the English people when the time comes for the legislature to give effect to the recommendations of the report. The truth is that no conceivable system of public instruction, however wisely organized, can ever satisfy all the

legitimate demands, or be coextensive with the intellectual requirements of a free people. Room must always be left for new experiment, and for fresh machinery. Liberty, enthusiasm, inventiveness, power of adaptation to new circumstances and to new needs, will always be necessary, if future development of education from good to better, and from better to best is to be assured. The commissioners have fully recognized this truth; they have not recommended the destruction or discouragement of any existing agencies, but have sought to coordinate them, and to bring them into helpful relations to each other. They have shown how deficiencies may be supplied, resources economized, and future enterprise encouraged. And it is because this work has been done on the whole with moderation and judgment, and in the spirit of compromise, that the report is likely to commend itself to the favorable acceptance of the English people, and to lead ere long to useful legislation.

It should be added that only three volumes, out of the ten to which the report extends, have yet appeared. The oral evidence, and the report of the assistant commissioners, including one by Dr. Findlay, who visited the United States, have yet to be published. It is probable that after the appearance of the complete report, and after some public discussion of the recommendations, I may venture to trespass on the readers of the REVIEW again, and to supplement, with fuller information, these first impressions.

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Other articles by Dr. Fitch on Education in England have appeared in the EDUCATIONAL REVIEW, as follows:

Contemporary educational thought in Great Britain (December, 1891); The proposed university for London (March, 1893); A view of England's educational system (November, 1893); The religious issue in the London schools (February, 1895).

II

LANGUAGE AND LITERATURE

THEIR CONNECTION IN PRACTICAL EDUCATION[1]

Since we were last together, an essay, widely read over our English-speaking world, has brought up for somewhat bitter discussion that very question which we were to discuss to-day. It is the essay of Mr. J. Churton Collins, a writer of much distinction on the teaching of literature, published in the *Nineteenth Century* for February, 1895; and it bears a title of ill omen, as I fear, for the teaching of English. Mr. Collins calls his essay "Language versus literature," and in thus naming his clever article, he formulates that antagonism between the teaching of the language and the teaching of the literature which is, as I believe, the most deadly danger of our time to the successful teaching of either. For, although Mr. Collins limits his own essay to "Language versus literature at Oxford," the danger that lies in its fundamental doctrine cannot be kept from spreading wherever men or women are trying to teach English. If that antagonism which he urges be accepted as a real antagonism, and followed in our system of education by a practical separation of language from literature, those evils of our present system which we are seeking to cure are to become graver and less controllable. There is, indeed, no disguise of Mr. Collins's meaning. By the teaching of language he means, as he says, all "grammatical or verbal commentary" upon the literary masterpieces (p. 290); and by the teaching of literature he means the discussion of the relations of such literary masterpieces "to history, to philosophy, and to æsthetics." These are the two methods of study that he proposes to separate forever, and to pursue on separate lines. This is the

[1] Read at Columbia College, before the Association of English Teachers, on April 10, 1895.

antagonism, as he conceives it, between *philology* as the teaching of grammar and of the meaning and construction of words, and *literature* as the teaching of history, of philosophy, and of æsthetics. If this be a just antagonism, if the meaning of a writer, as conveyed through his language, is to be separated in practical teaching from the relation of that meaning to history, to philosophy, and æsthetics, then all existing systems of education, from the highest to the lowest, are to be wrenched from their connection with the past ages of human culture and reformed on new principles of completely modern speculation. The teacher of language, on the one hand, is to keep aloof from the historical, from the philosophical, and from the æsthetical meaning of the work of literature that he is interpreting. The teacher of literature, on the other hand, is to refrain from interpreting the language of the literary work whose philosophical and historical and æsthetical relations he is expounding. Such is the strange doctrine that Mr. Collins, as champion of a somewhat popular movement, urges upon Oxford and upon our English world. This is the antagonism that he expounds in his "Language versus literature."

Antagonism between language and literature, if admitted as a principle in education, must show itself, of course, in its effects, first upon the teaching of language, and then upon the teaching of literature. What, then, will be the results upon the teaching of language of divorcing it from literature? That is a question to which experience gives a full answer. There are men in all ranks of our profession that, shutting themselves off from all contact with literature, have essayed to teach language. Each of us, in his time, has been the victim of such teachers. They have, it is plain, existed in all stages of human culture. They were as familiar to the Greeks and Romans as to us. And they have been in every age the promoters of dullness and pedantry, the bane of pupils, the butt of poets and jesters, that evil race of σχολαστικοί whose sayings and doings amused the world before *Punch* and *Charivari* came into existence, before the "funny columns" of the newspapers were founded on our American soil. 'The world's

experience of such teachers is ample. For the children in our schools, for the students in our colleges and universities, except in special cases of advanced courses in pure linguistics, the study of language, if severed from the study of literature, is found to be not only fruitless in itself, but also in high degree, to mind and character alike, pernicious. Men, for example, that have studied Latin under such teachers, feel for all their lives a disgust for Latin learning, and bitter disbelief as to the existence of literary beauty in the Latin literature. They are the men, in our modern societies, that are leading the crusade against the continuance of classical studies. And so, in the same spirit, the boys and girls that have had in our schools to study English grammar and English spelling-books out of all connection with English literature, pass from school into life, not only ignorant of the noblest knowledge of our race, but full of prejudice against all forms of literary culture. Thus, it is plain, to carry out the antagonism of language and literature by teaching language without literature is, so far as language is concerned, unwise and deadly.

In like manner, where experiments have been tried, the study of literature, divorced from the study of language, shows itself just as fruitless, just as disastrous. Each work of literature has, of course, its relations, as Mr. Collins says, with æsthetics, with philosophy, and with history. But, before these relations can be taught, that work of literature must itself be known. Such knowledge of the work to be studied comes through language. Only through definite forms of human language does literature, in its true sense, reach the mind at all. And all works of true literature, in whatever language it utters itself, have access to our minds only in forms of language that demand effort and help for their interpretation. Thus the teaching of literature reposes always upon the teaching of language. A child, in trying to take in a piece of literature, in trying to reach the author's real meaning, has need at every turn of his teacher's help. Words have to be explained, constructions interpreted, the bearing of part upon part made plain. Here then, even at the beginning of the

teaching of literature, there is the call for the teaching of language as the basis of all attainment of literature itself. And as our children advance from simpler forms of literature to forms that are more elaborate and more difficult, the need of interpretation by means of language becomes more and more imperative. On this point, the practical experience of teaching frees the minds of teachers at least from peril of unsound theories and somewhat odious cant. Not only in Greek and Latin, not only in the modern languages, is the careful study of language the absolute condition of contact between the child's mind and the author's meaning. Even in our own literature, in the prose and poetry of our own time, ignorance of the language, ignorance of the meaning of words, ignorance of the form of constructions, is always betraying children's minds into false or feeble conceptions of the author's meaning, into blindness as to his literary form. Thus the chief effort of the true teacher of literature is always to enable the pupil's mind, by all arts of interpretation, to penetrate into the full meaning of the text, to take in its full thought and to catch its true feeling. An ode of Swinburne, for example, where the meaning is almost lost in the surges of his anapæstic vocabulary, or one of Browning's dramatic lyrics, where a difficult thought is hidden in tangles of difficult construction, demands more care in the interpretation of its language than a passage from Homer or Vergil. Unless this be done with patience, with loving care, with sympathetic judgment, there is no real knowledge at all of literature attained, no solid basis of knowledge for those discussions of philosophy and history and æsthetics of which Mr. Collins speaks as the matter of literary teaching. And so, for the teaching of literature itself, its separation from the teaching of language is altogether pernicious. It leads to careless habits of reading, to false thinking, to self-deception, to that bungling and smattering which rob education of its real value. For the true study of literature is the study, not of theories about relations of history and philosophy and æsthetics, but of the meaning and significance of the great works of literature themselves. And the meaning

of the text is so inwoven with the language that expresses it as to make all study of literature except through knowledge of language delusive and fallacious.

The teaching of language apart from literature and the teaching of literature apart from language have then, it seems, in different ways, but in equal degree, always shown themselves to be ineffective. In all great schools of literature, language and literature have, in point of historical fact, been united for their common good in one common discipline. And, in our own time, in the writings of Mr. Collins and others, the unwise effort to bring about this separation arises in large measure from misunderstanding of the name that all ages and all nations but ours have given to the study of language and literature in combination. That name has always been philology: and so, in urging his doctrine of "literature versus language," Mr. Collins makes his attack upon what, in thoroughly false conception of a philosophic term, he calls philology and philologians. In his mind, he has reduced philology to what he calls "grammatical and verbal commentary"; and having thus disgraced the noble word by a false rendering of its historical and philosophical import, he deceives himself into asserting that "philology has no connection with literature" (p. 290). In such a definition, in such an assertion, there is an audacious defiance of the facts of history and of the philosophic use of language. The noble term itself, Platonic in its origin, denoted in Plato's mind the love of reasoning, the devotion of the soul to the exercise of the mental powers. It was made by the teachers of Alexandria the technical term for the study of literature. Among the Roman scholars, it meant the art of practical interpretation as applied to works of literary art. In the times of the Renaissance, in almost the same meaning, it connoted all those branches of knowledge that were combined to make intelligible to the modern world the meaning of the great works of classical literature; as such it combined not only the meaning of words and the study of constructions but also the doctrine of literary form, the practice of criticism and the principles of æsthetics. Conceived in

this true sense, philology is, therefore, just the right name for that noble discipline of the mind which combines the study of language with the study of literature. Its sublime unity of conception is the logical antidote for all pernicious tendencies toward separation between language and literature. The study of language is philological so far as it bears upon the interpretation of literature, so far, that is, as it helps the mind to take in the exact meaning of the author read. The study of literature is philological so long as it deals with the meaning of a work of literary art, with its artistic form, with its history, with its historical and æsthetical significance. For us, therefore, as practical teachers of English, it is all-important to keep this word in its right use, and to find in it the ideal of our own efforts. Its thorough-going sharpness of conception cuts at the root of all harmful practices in our teaching. For our pupils, except in special cases, all study of language that does not help to interpret literature is to be rejected as harmful; and all study of literature that does not rest upon clear understanding and sound interpretation of the language used in literature is to be reduced to the smallest amount. Thus, for our purposes, as combining both sides of our daily duty, philology may be defined as the loving and methodical study, through language, of literature itself; and, if so made a part of our intellectual life, it will serve to keep us from pedantry, to keep us from dryness and shallowness of instruction, to keep us from all that is idle and desultory, from all that is absurd and pretentious in our daily dealing with the language that we teach and the literature that we interpret. Wherever, in fact, there is good teaching of language, that teaching, in its bearing upon literature, is philological; and wherever there is good teaching of literature, that teaching, in its power of interpreting an author's exact meaning, is again an exercise of purely philological skill.

This brings us face to face with another of Mr. Collins's paradoxes. He has sought to separate the teaching of language from the teaching of literature. Confounding philology with the purely grammatical teaching of language, he has

denied that philology has any connection with literature. Finally, in speaking disdainfully of students of language, he says "the instincts and faculties which separate the temperament of the mathematician from the temperament of the poet are not more radical and essential than the instincts and faculties which separate the sympathetic student of philology from the sympathetic student of literature"[2] (p. 293). According to this view, the student of language is separated by radical and essential differences of temperament from the student of literature; or, the qualities of mind and the passion for knowledge that we find in students of language are different in kind from the qualities of mind and the passion for knowledge that we find in students of literature. Such a statement, if true at all, would be capable of direct historical proof. In the student's survey of human culture, if such a difference existed, we should find, on the one hand, that students of language had showed themselves incapable of understanding the principles of literature, and that, on the other hand, the fundamental principles of criticism and literature had been established by men that were not students of language. Let us look, then, to the facts that are familiar to all students of human culture. Was that Aristotle who discovered and formulated the natural laws of poetry different from the Aristotle that laid down the laws of logic and the principles of grammar? Was the Quintilian that gave to the Roman world its most splendid monument of literary criticism a man of different instincts and different faculties from the Quintilian that, in his closing books on style, gave also the most penetrative analysis of grammatical and rhetorical form? Think, in modern times, of Petrarch, of Boccaccio, of Reuchlin, of Erasmus. Was the passion for linguistic knowledge and for purely grammatical learning in those great leaders of modern thought inconsistent with the passion for literature or with the sense of literary art? And, in our noble English line, think of Ben Jonson, grammarian of

[2] This sentence is so badly formed as hardly to have a meaning. The thought seems to be that the difference between the instincts and faculties of the two classes is radical and essential.

the English language, poet and critic of poetry; and think also of his great namesake, Dr. Johnson himself, who, having passed his youth in the purely linguistic studies of his great dictionary, summed up in his *Lives of the poets* those principles and examples of purely literary criticism that still stand as the best result of eighteenth century thought on literature. In truth, in all ages, since literature has been studied, the best results of such study have been combined with the profoundest knowledge and highest mastery of language. Sainte-Beuve, when he gave his lectures on the poetic beauties and constructive plan of Vergil's *Æneid*, approached his poet through a consummate knowledge of Latin. Matthew Arnold, when he composed the best analysis ever given of the style and art of Homeric poetry, had as his means of access to the problem his profound and delicate knowledge of Homeric Greek. In the same way, Dr. Jebb's treatment of oratory and the Attic orators, Lang's lovely discussion of the Homeric question, Lounsbury's criticism of Chaucer's poetry, Jowett's studies of Plato—all have flowed from the minds of men that were trained in the severest study of language, men that had all the instincts and all the qualities of the most ardent philology. In fact, up to this time, one could hardly find any great and splendid piece of literary criticism, any final and monumental work on any great masterpiece or on any great epoch or department of literature that has not come into existence by philological method, and through the careful and loving study of language. Without this basis of exact knowledge, works of criticism, not built on philological method, perish with each season as fast as they arise. For, since the highest effects of literature must always be produced by the skillful and powerful management of language, only those men that can feel, through perfect knowledge, each vibration and suggestion of language are capable of interpreting the full significance of literary art.

Of this difference in value between works of literary criticism, according as they are composed with or without philological method, there is in my own department one example

so full of meaning as to be worthy of special notice. The subject of Anglo-Saxon poetry happens to have been discussed by two critics of well-deserved fame. The one was a great French philosopher, considered at one time by his admirers to have established a new method of philosophical criticism, by setting the productions of literary art into scientific relation with the facts of physical geography and of sociology. The other was an old-fashioned English scholar, well read in many languages, careful in habits of study, and so much antiquated in his methods of criticism as to think it worth while to spend many years in learning a language in order to form a judgment of its literature. And so we are able now to see Anglo-Saxon literature as it showed itself by the one method to M. Hippolyte Taine, and by the other to Mr. Stopford Brooke. In Taine, there are magnificent generalizations which now, after lapse of twenty years, are seen even by his admirers to be fallacious; there are brilliant statements of fact that happen not to be true; there is a sparkling literary criticism that assigns to the poetry of the Anglo-Saxons just the qualities that it lacks and denies to it just the qualities that it possesses. In Stopford Brooke,[3] there is, as poetical background of his picture, but little of physical geography, and only some careful and well guarded statements as to the dubious results of race and the bearings of political institutions. But there is a full acquaintance with the poetical literature that he discusses, sound knowledge of the secrets of Anglo-Saxon vocabulary and style and verse-forms, correct and generous appreciation of poetical beauties, and such a linking of man to man, of poem to poem by development of literary form throughout the centuries as makes the entire period live for us with almost complete vitality. And thus, while Taine's treatment may charm us into reading and leave us infected by its magnificent illusions, the survival of a past epoch of critical speculation, Brooke's noble and monumental work, scarcely to be touched by changes of speculative theory, remains a precious treasury of careful facts, of correct and vivid interpretation, of sound and sympathetic criticism.

[3] *History of English literature* (1892).

Such philological method means, as we have seen, both the careful study of language and the careful study of literature. But, although both elements must be present, there is, according to circumstances, an ever-shifting proportion between the two. This depends, of course, chiefly upon the nature and the style of the piece of literature that is to be discussed. If, for example, the author be Homer, in some passage of stirring action and easy syntax, the skillful teacher of Greek may take time and attention from points of language in order to concentrate them upon the literary form, upon the beauty of the scene, the liveliness of the characters, the swift and eager movement of the narrative. But, if the same teacher were reading an ode of Pindar, there is not in the world a class of students for whom the interpretation of the text, the connection of the strophes and the delicate unveiling of the figures would not be necessary as the means of entering into the charm of the poem and of feeling its real meaning and its artistic significance. So in countless passages of Shakspere, all the force of the character and all the movement of the scene depend upon correct interpretation of the words Shakspere uses.[4] And again, the right proportion between the teaching of language and the teaching of literature varies with our pupils' age and mental advancement. If their youth or their lack of reading makes their vocabulary small and their understanding of literature dull, then there is absolute need of explaining words and interpreting constructions. Without this, the charm of literature cannot reach their souls. But if the pupils be well advanced, familiar with large masses of words and with literary style, then the teacher may take much for granted, and deal with the literary form of the passage, with its relations to history, to æsthetics, and to philosophy. In sound teaching both elements, language and literary form, will always, indeed, make themselves felt. But, in general, where the student's knowledge of language is scantest, the

[4] Hamlet, to his sword, "Know thou a more horrid *hent*."
Othello, of Desdemona:
"If I do prove her *haggard*,
Though that her *jesses* were my dear heart-strings" (iii. 3, 266).

teacher's interpretation of language must be fullest; and only by degrees can his attention be withdrawn from the language to fix itself upon literary form and historical and philosophical relations. Each step, therefore, in the student's knowledge of language is a step toward comprehension of literature. Only as the practical command of language approaches perfection, is there any real access to literature.

Here then, of course, is that advantage which comes to teachers of English in their teaching of literature. The child that speaks English as his mother-tongue starts upon the study of English literature with a fulness of preparation, an adequacy of intellectual means, which in Latin or in Greek or in any modern language he attains, if at all, only by many years of painful effort. He has, in his command of English words, in his general understanding of English sentences, easy access to the meaning of English authors; and thus, lifted by chance of birth above the thorny barrier of grammar and dictionary, he is able almost at once to feel the meaning of what he reads, and to pass to the study and appreciation of literary form itself. There is here a gain of many years. A child of seven or eight understands with more ease the meaning of a simple English poem or prose story, and feels the charm of its literary form with more directness, than students of seventeen or eighteen in dealing with a similar poem or story in Greek and Latin. Since the difficulty of the foreign language is withdrawn, his mind is able to pass step by step, in easy and delightful process, to what may be called the literary qualities of literature. In poetry, for example, his ear may be trained to feel and understand the beauty of the verse-form that delights him. In prose his taste may be guided to discover the beauty of the sentence and to see the construction of the paragraph. The meaning of the passage, in its delineation of human life and in its revelation of spiritual truth, may become almost at once a part of his mind. Even the charm of purely literary art, the delicate choice of words, the lovely play of humor and imagination become almost from the first visible to his childish mind. Think, for example, of our children's

delight in Hawthorne's tales of the Greek mythology, or in the Lambs' rendering of the Shaksperian stories. There is, I think, an average difference of ten or twelve years between the time at which our pupils can understand and appreciate English literature and the time at which, if ever, they are able to understand and to appreciate the literary quality in their Latin. Thus, in the years of school life, if the teaching of literature follow good method, the child has time to gain a true knowledge of much great literature and a useful conception of literary form itself. For this reason, as matter of common sense and economy, the real teaching of literature must be chiefly in the hands of English teachers. We have, in our pupils' knowledge of their own language, an enormous advantage as teachers of literature over teachers of other languages.

As offset to this advantage, there is, however, one special difficulty in the philological teaching of English literature. It arises from the mixed character of our English literary culture, from that strange divergence which history has made between the forms of our English language and the forms of our English literature. Our language, in its stock of fundamental words, in its inflections, in its syntax, above all in its psychological grouping and sequence of words, is purely Teutonic. Thus, to understand the modern language, so as to be able to explain its difficulties and to reveal its beauties, the teacher of English has to make himself familiar with the essential steps in the historical growth of the language from the eighth century to the nineteenth. In this he has to follow the Teutonic line of sequences. But our English literature, in its models of excellence, in its forms of literary construction, in its artistic patterns both of prose and of verse, goes back step by step chiefly through French and Italian to the Latin and Greek conceptions. It was, for example, from French models that Dryden drew the essential features of our modern prose. It was from Italian models that Chaucer and Surrey drew their methods of narrative and of lyrical poetry. It was under the influence of classical forms, chiefly of course Hellenic, that all the great masterpieces of our literature, in poetry and prose

alike, have assumed their artistic shape. Thus, for teachers of English, the task of the philological teaching of English literature is especially difficult. If in dealing with the facts of language, with grammar, syntax, construction, he neglect the Teutonic side and teach according to the conceptions of his Latin grammar, his blunders and absurdities become incredible. From this have arisen the worst books that disgrace the school system of any modern nation, the mass of those school grammars that carry into the study of a Teutonic language the rules and classifications of the Latin system. If, however, the English teacher shut himself up in the Teutonic system of language, if he close his mind against the artistic forms of Hellenic and Roman literature, he makes himself incapable of interpreting literature. He is unable to point out historical connections in style and to trace the movements of literary art. The difficulty is very great. As compared with the Italian teaching Italian, or even with the Frenchman teaching French, the English teacher of English has need of the far larger philological equipment. He must combine in himself an adequate knowledge of the forms and principles of the Teutonic language with an adequate knowledge of the forms and principles of the classical literature. It is by lack of the one element or of the other, that our English teaching is often so ineffective.

In the true method of teaching literature there is one point to guard that is the key of all philological study. In our teaching of literature there must be no serving up of scraps, no discussion—verbal or grammatical or critical—of incomplete fragments of things. The child, to gain a true knowledge of literature, must deal directly with the work of literature itself; and each work of true literature is, in its own nature, first of all, an artistic unity, to be studied, if studied at all, only in its integrity of artistic structure. Thus a lyric of four lines, if complete and perfect in those four lines, is better for our purpose than any collection of the poetical shreds and patches of longer poems. An essay by Lamb or by Matthew Arnold, an oration by Webster or by Bright, a tale, a story, by some good

writer of narrative, contains in its well-arranged sequence of paragraphs the perfect display of literary method and of artistic skill. But if the structure be broken, if the plan be shattered, fragments taken from it, once so beautiful and so full of instruction in their right place, become for the teaching of literature worthless or even harmful. Nothing ought to be closely studied for knowledge of literature that has not beauty of literary form; and beauty of literary form, fitness, harmony, proportion among the parts, is found, never in scraps, but only in complete works of literary art. Whether short or long, let each work of literature that we read with our pupils be complete in itself. In that way, passing up through the interpretation of special passages, explaining all that needs explanation, we shall be able to disclose its quality as a work of art, its organic structure and organic unity as a work of literature.

In dealing with such works of literary art, if the study of the language and the study of the literary form be kept side by side in equable progress, especially if they be drawn together in our pupils' minds by incessant practice in composition, each study in turn, it is plain, will be helped by the light derived from the other. But for this there must be wise discretion in choosing the forms of literature that are to be studied. They should be graded according to complexity of their literary form itself. In prose, we should, I think, begin with simple masterpieces of descriptive method, descriptions of scenes of physical nature, of landscape, of cities, of aspects of familiar and of foreign life. Then may come passages of narrative art; first simple narrative, then complicated by several streams of events, with descriptions and estimates of human character as seen in action. Then, as the mind ripens, works of oratory, noble essays, and philosophical reasoning and exposition. In poetry, however, the grading has to be slightly different. Poems of pure description, free from the disturbing movement of lyrical emotion, are hard to find and seldom of great literary charm. Lacking these, we should begin with poems of simple narrative—humorous or serious, pathetic, picturesque, always of stirring interest. Then we have, in our

noblest ballads, forms of narrative poetry that are full of lyrical feeling, the natural introduction to lyrical poetry itself. From these into certain forms of lyrical poetry, forms in which the emotion is simple and noble, the movement of the child's mind is easy. Then there is the passage into the long narrative and into the epos. Finally, as highest stage of all, there is access to the drama, to the works of Shakspere. Thus, for the last years of school life, for the study of composition, for the maturing of the powers of thought and of imagination, there is reached the careful reading of Shakspere's poetry and of Burke's prose, the noblest forms of literature that our race has produced. By some such plan of arrangement, in the course of the years from eight to seventeen or eighteen, almost the full compass of our great literature, in representative works of the various literary forms, may be brought before our pupils' minds and made a part of their souls forever.

In order, then, that this school study of literature be real and profitable, it should be spent upon literature itself. It should be models of literature that are studied, not books nor essays about literature. To gain time for this, we must be always on our guard against the premature and excessive use of handbooks of literary history, of handbooks of literary criticism, of biographical treatment of authors, of historical treatment of the dates and externalities of their writings. Books about books are, in general, unless the books themselves be familiar, the least profitable of reading; and, in our country, it is the large use of books about literature that has almost killed the study of literature itself. They tend to destroy in our pupils the freshness of their minds for contact with the great works of literary art. They make the names of books and of authors familiar to children's minds, while the meaning of the books is unknown, and their charm unfelt. They delude us into a false conceit of knowledge that is fatal to knowledge itself. Especially dangerous is the substitution of biographical bits about great writers' lives for the study of the works of literature that they have produced. It is in too many cases the substitution of a morbid interest in the poet's personal

character and personal frailties for a noble and healthful interest in the works of pure literature that he has created. In Shelley, for example, for the one serious student that knows his poetry and seeks to understand the movement of his exquisite lyrical imagination, there are thousands of men, women, and children that pry into his sexual relations and fill themselves with his rather absurd theories on marriage, politics, and theology. If I talk to a young scholar about De Quincey, he knows, I find out, all about his opium habit, but he has never read the *Cæsars*. If the conversation shift to Marlowe, he has fuller knowledge than Marlowe's own contemporaries of the death in the brothel, but he has not yet had time to read *Dr. Faustus*. It is such loose reading of literary sketches, of anecdotes, of gossip about men of letters, that is suffered too often to take the place of study of literature. Some study of literary history, some study of personal biography, if used in close connection with the masterpieces of literature themselves, is, of course, useful as throwing light upon the literary production. But the true study of literature, the study that fills the mind and forms the character, is not the study of the facts or fictions of biography; it is not the study of handbooks of literature or of handbooks of criticism; it is not even what Mr. Collins urges, the study of historical or philosophical or æsthetical theories about literature; it is the study of the works of literature themselves, in their meaning, in their form, in their artistic structure, and in their moral significance.

In practice, then, as in theory, it is the study of the works of literature themselves, far more than the study of criticism upon those works, that makes the charm and the profit and the final goal of the study of literature. And, in such study of literature, it is the study of language that leads to what we wish to attain. For the study of the language, and that only, has the power of revealing to us both the meaning of the writer and the character of his style. And so, by revealing the exact meaning of the work of art, it determines its artistic and its historical significance; and, by revealing the character

of its author's style, it leads us to our final knowledge of the man himself, of his intellectual and emotional nature, and of his modes of imagination. Last of all, as the study of language is the study of style, it brings to discovery the general movements of literature, the influence of writer upon writer, and of age upon age, in all the long evolution of literary form. Thus the study of language and the study of literature seem in scientific thought, as in historical connection, inseparable.

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Other articles upon various phases of this topic have appeared in the EDUCATIONAL REVIEW, as follows:

The function of literature in elementary schools, by Professor George E. Hardy (July, 1891); Can English literature be taught? by Professor Brander Matthews (April, 1892); English composition in colleges, by Professor George R. Carpenter (December, 1892); Developing literary taste in students, by Professor Edward T. McLaughlin (January, 1893); Relations of literature and philology, by Professor Oliver Farrar Emerson (February, 1893); Literary spirit in the colleges, by Professor Francis H. Stoddard (September, 1893); The teaching of English literature in schools, by J. Wells (October, 1893); The contents of school readers, by Principal A. E. Kellogg (November, 1894); Educational value of English, by Mr. George H. Browne (April, 1895); English in the college, by Professor L. A. Sherman (June, 1895); High-school course in English, by Professor George J. Smith (December, 1895).

III

HIGHER EDUCATION IN THE SOUTH

Out of the overthrow of an unique and forceful civilization in the Southern States there is slowly emerging a new society. Under the stern pressure of necessity this silent revolution has proceeded so quietly, and has been masked so skillfully by the marvelous material resurrection of a ruined and conquered people, that men have not marked the clashing of old ideas and aspirations and modes of thought with the new strenuous influences of modernism and innovation. All the well-known phenomena of transition are in full play in Southern life—the people as a whole, incited by lack of training and consequent poverty, pressing steadily toward a wider life, but unable to distinguish, in the general clamor, the guidance of true wisdom from the voice of the slave to his prejudice or his sect casting in stumbling blocks, or the raw enthusiast shouting panaceas and prophesying millenniums.

The direction and elevation of this social new birth are the surpassing duty and function of all educational forces, and more especially of the higher education in Southern life. Whether there shall issue from the conflict an enlightened civilization blending the lovableness and charm of the old with the vigor and freedom of the new, or some unhappy system made up of crudities and ancient prejudices, is the task set for this generation of educated Southern manhood.

Isolated, individual, conservative, the South of the past held itself proudly aloof from the ferments of modern society, went its own way, and created its own dominant, dramatic order. This order was a system of contrasts and lights and shadows. It produced neither wealth nor letters. It dishonored labor, arrested immigration, minimized invention, unified industry, and exalted caste. The academies and private schools of the time,

administered by scholarly and devoted men, were numerous and effective, indeed, almost perfect instruments for the purposes of the time; but the common schools, branded with the burning badge of pauperism, could not thrive. Yet there issued from this order the smallest, the alertest, the most powerful political force in Christendom. The American Union had sprung from their brains, had been maintained by the valor of their arms, and had extended its territory under their guiding hands. By a strange historic paradox the causes of their weakness became as well the causes of their strength. The dangers and antagonisms of a militant labor system made them masterful in action and persuasive in speech. Baronial life, with its leisure and inherited overlordship, made them as simple as shepherds and as proud as kings. In the placid air of their enlightened mediævalism lingered the brave old ideals of courage and beauty and gracious dignity. There was but one overshadowing Southern question then, and this for its treatment did not so much need universal intelligence and thrift and the spirit of gain and growth, as it did character, principles, oneness of purpose, and chivalric codes of conduct. Hence all the forces of the time concentrated on these lines, and there arose an assertive, sensitive, sincere, dauntless race of men esteeming life less than honor and loyalty more than gold, who wrought with a sad, Titanic sincerity for their doomed cause; withholding nothing, compromising nothing until the mighty struggle wore to its sublime and pathetic close at Appomattox.

The great war, in the mystery of historic forces, freed the white man, rolled away his burden, and enrolled the South in competition with the great industrial democracies of the world. Its problems, no longer direct and primitive, are their problems intensified by the painful processes of social transformation. The old individualism has given place to combination and capitalism, servile labor to the labor of the free black; and with this the best products are to be raised, the best goods manufactured, and the best routes to market devised. Our first work is to possess the land and subdue it. The care of the

body, if not so important as other higher things, must at least take precedence in the evolution of a higher civilization. The law of the passage of society from the patriarchal to the economic stage necessitates the higher organism, the subtler brain, the more cunning hand. Hence, like a belated army, the South is seeking to conquer a place in material civilization; its dreamers become captains of industry, and its doctrinaires, lords of trade. We shall lose an element of charm and picturesqueness, but we shall gain in wealth and productive energy, and the change is inevitable.

Our largest work is the wise and just guidance of the irrepressible instinct of democracy, restrained for generations, now asserting itself in the upheaval of the plain people—the Third Estate—who are everywhere coming to the front, demanding their share in government and challenging the authority of the ruling class. Our untrained men are learning to govern by governing—pedagogically and historically a wise process; for that surely is better than to be governed and remain ignorant. The situation is not without great hopefulness. The rank and file of this popular uprising are the best material in the world for the making of educated citizenship. The Civil War revealed their value to the world and constituted their university. Its marches and dangers opened their eyes and gave them their outlook on life. They and their sons, the younger element in the movement, are men of unmixed English and Scotch-Irish blood, inheritors of the Anglo-Saxon consciousness, descendants of men who sacrificed peace and life for principle in three wars; keen-witted, if untrained—their very excesses the result of boundless faith in the majesty of their government. The tasks awaiting adjustment by these men, sure to attain and hold power in the end, are enough to appall the wisest statesmen and the profoundest social scientists —the remodeling of constitutions, the settlement of grave questions of suffrage and property, the reconciliation of classes, and, greatest of all, the problem of the two races.

The sentimentalists and partisans of the Reconstruction period fancied that they had settled the question which had

disturbed the dreams of Jefferson, which had perplexed and affrighted the national conscience through all its history, and which had just evoked the mightiest moral energies of the century. But their solution was no solution. It was solemn opera bouffe. The problem had just begun, and remains the transcendent sociological problem of the age. Rant will not dispose of it, or ignorant gush, or race prejudice, or the philosophy of the sentimental and the remote; but it must work itself out on Southern soil by the wisdom of Southern men of both races. It must pass into the region of scientific study and investigation. The Southern scholar must make it his province in the still air of the university; the statesman and publicist must ponder it, and the capitalist may well reckon with it amid his gold.

What manner of men, then, does the South need in its coming life?

Perhaps in the past we set too much store by wise leaders and neglected to provide for wise followers. If so, the irony of Fate is sporting with us, for now, in the threatening danger of these great questions, we are practically leaderless. The old type of leader, softened by fortitude and idealized by woe, has passed away, canonized by love and letters. The voluntary and occult forces of the time are seeking diligently to fashion the new. Now and then we seem to get a glimpse of our leader—as when Henry Grady with his golden tongue and free, spacious spirit uprose upon the South, a radiant prophecy of its future manhood—but it is only a glimpse. The mere industrial man will not answer our need, though there are lands to be tilled and factories to be built, and the madness of exalting empty political pre-eminence and fair-spoken words above the sciences that will dignify labor and procure food can never again curse our life. The mere orator or politician or scholar will not do. There must be a complex of all these—the man of free spirit and constructive habit—the man of insight and effectiveness, of utility and beauty, of action and contemplation. He shall, above all, have faith and sympathy with the blundering masses, and shall be endowed with that

patient wisdom which can await the unfailing rectitude of public impulse and can keep its faith through unpromising days. Like Fichte around the King's council board, or Luther to the burgomasters of Germany, he shall plead unceasingly for education in the colleges and schools, in the press and in the public library. If our laws and institutions are not to become the crude experiments of the ignorant or the bold devices of the corrupt, if the South is to outgrow years of economic misconception, if the teachers in our schools are to be true teachers—educated men, rather than party chieftains or untrained place-seekers, must lead our civilization. The potential of trained mind must constitute the test of true leadership in the South hereafter. The popular contempt for higher education and the popular pride in the self-made man is always widespread and strong in democratic communities. The feeling is a sort of retribution upon scholarship and educated power for their cowardice and selfishness, but it is none the less defiance of common sense. The educated man may not always be in place, but he is sooner or later in power. The higher education is the dynamic element in the life of the community; invigorating the schools of the people, bravely struggling to elevate the common standard of living, supplying the state with its teachers in the schoolroom, the press, the pulpit, the family.

Out of the universities of the world have come its creative movements and men—religious freedom in the Old World and civil liberty in the New. Modern Germany is the child of her universities, and relies more firmly for her permanent power upon them and their twenty-eight thousand students than upon her invincible soldiery. Blot out the influences of Harvard and Yale and the colleges of the Atlantic seaboard, and what art can estimate the loss in moral elevation, practical power, or national character? The great Columbian Exposition with its splendor and beauty will fade away—aye, has faded away as a dream—but its neighbor, the university, will shape Western life for unnumbered generations. Wherever tyranny has sought to oppress the weak or ignorance to rule the wise,

wherever the borders of light have needed to be enlarged, or ancient and prosperous shapes of wrong to be cleansed from the land, the gray walls of the university have yielded up its spiritual battalions—strong in steadfast purpose and cultivated brain, discoverers of thought, conservators of truth, stimulators of mind, sowers of seed that will bear fruit in a fairer time. The feeling is instinctive that men of this stamp and quality must serve a state in epochs of downfall and trial. The South has not failed in this feeling, as its brave efforts to establish and maintain schools and colleges for both races quite eloquently show; but the needs of Southern society are so great, her young men seeking training are so countless, the work of all the colleges is such a fraction of what is left to be done, the disheartening rivalries and bickerings among the colleges themselves are such distressing proofs of the need of higher education, that it has seemed best for me to leave the questions of technique and administration to wiser men and to plead for the thing itself.

We are not all of one mind as to how the great need shall be supplied. There are those who insist that this vital thing is not a concern of the state, whose highest functions they declare are symbolized by the policeman's club or the law's penalty. And then there are the prosperous communities with amassed wealth and settled material skill, who say to us that we must wait upon the impulses of philanthropy or the activities of the Church for our educational foundations. But the nature of the state is at variance with the limitation of its powers to police regulation, and the instinct of civic self-preservation decides against trusting wholly to individual generosity or ecclesiastical agencies for an universal social necessity. The state is not the government alone—it is the will of the people expressing itself in beneficent institutions as well as in penal or protective codes. The protective function of a state, indeed, may disappear as reason advances, but the loftier educational function will increase as social relations grow in complexity.

From the standpoint of right, there is no power to which

the state can delegate its duty and power to educate, for there is no higher power than the state. If there be a higher power in the state than the state, then that power *is* the state. From the standpoint of political common sense, the agent of social salvation should be at least as potent as the extent of social peril. Our social peril is superlative, involving education or migration or revolution. The most potent conceivable agent is the state, which is concerned about and surely is responsible for its own life. Therefore, it is the all-powerful state that must maintain itself against vital danger. If it be conceded that the youth of a commonwealth have the same right to be educated that they have to be free, then it must also be conceded that the state is responsible for and alone has the power to guarantee the granting of this sacred right. To those who concede the state's right and duty to educate in the primary education and deny it in the higher, it may be answered that an argument for any education is an argument for all education. If the state has a right to educate at all, it likewise has the right to determine the extent and character of that education. All knowledge is comparative, the higher education of one age becoming the lower of the next, and there can be no dead line in learning at which knowledge ceases to be good and becomes useless. The three "R's" are indispensable. But mere reading is not reading with profit, and the one is as indispensable as the other. Higher education simply means more education, better education, completer education for a completer life.

It is not a cult for the few, or a caste for the wealthy, or a college for the exclusive. It is the training ground for the people, and is the essence of democracy in its purposes and results.

In my own State of North Carolina, up to the Civil War, there was a widespread feeling that the ruling class was confined to a few families of ability and wealth. In the early days of the century it was true, and necessarily true, for the influential and wealthy classes alone could command the advantages of education, and education finally rules. The

enlightened policy of the modern state knowing no class, and knowing that those who most need help are least able to help themselves, cheapens the cost of this priceless thing and offers it to the aspiring of all ranks who feel within them the promptings of power and yearn for the higher life of useful action. As a result of this leveling process, introducing the higher test of fitness and ability, side by side in the various fields of endeavor and in the high places, sit men of all ranks and all degrees of wealth, advancing the life of the state.

Let me not be understood, in pleading for the higher education, as underrating the lower, for there is no essential distinction between the two. The state cannot be interested in one and not in the other, for they are one and indivisible. A system of education all universities and no primary school would be a crime, as a system all primary schools and no universities would be a farce. It is simply a question of sequence. The educative impulse is from above downward and not from below upward, and the two impulses re-enforce and enrich each other.

In the old Southern life in every hamlet and community were to be found men and women of the rarest culture; but all around, giving color and tone to the whole, moved the untaught throng. The supremest need of the new life is the lessening of this inequality by the presence, in large numbers in all elements of the population, of men and women of thoughtful, independent mind, of trained consciences and habits and hands, who can bring things to pass. This can only issue out of the higher education reacting upon the lower, lifting the whole to a higher common level.

The permanent forces in this process are, first and foremost, the State universities and colleges supported by taxation and expressing the Christian tendency of the brotherhood of men, and secondly, the endowed institutions supported by enlightened philanthropy.

There is no call among us for a multitude of new foundations, unless it be for institutions for the training of teachers. We need rather to expand and enrich and liberalize the old

foundations. There are two obstacles in the way of this result: The popular, abstract hatred of taxation which enables the enemies of the State schools to confuse the thought of the people and to make them regard all taxation as a curse rather than as organized corporate wisdom, hallowed by Christianity, struggling to secure for the children a needful thing beyond individual power. Secondly, the failure, thus far in our development, to find the golden mean between the individualism which preserves liberty and the individualism which paralyzes concerted action. Still partially rooted in our life is the fatal thought that every man should educate his own child, or leave him uneducated, if it be his will or misfortune.

Emphasized by poverty, this conviction still stays the hand of giving and belittles the glory and gladness of helping others to help themselves. We will do well to labor and pray for the death of this sentiment. We would be mad to cease state effort and demand endowment at the point of a subscription list.

Bishop Potter in a recent utterance has declared that the darkest day for any people would be the day when they did not possess an ideal university. And by an ideal university he meant any group of free, simple, unhampered men seeking truth for truth's sake; "waiting patiently on their bended knees before the shut doors of the Kingdom of Knowledge"; getting their only reward in the thrill of the human soul in its contact with eternal verity; ignorant and careless of the moment when their theoretic truth emerges into fact, and in the form of mighty engines or stately ships or roaring looms blesses the world. There can be no fairer picture on earth than this, and such men are indeed the *aristoi* of the world. But there is one thing greater than truth, and that is humanity. The Southern university may well cherish this serene ideal and incorporate in its organization the creative impulse and the spirit of inquiry and investigation, but its first thought must be about its environment, out of which it must grow and by which it must do its duty before it can erect a beautiful aristocracy of scholarship. Once we were aristocratic in gov-

ernment and education, but now we are democratic in both. At this stage of our culture, when millions are to be impressed with the importance of knowledge, the Southern scholar must forego his office of prophet and seer and become ruler and reformer; and Southern universities and colleges must do the work of social regenerative forces, reaching out directly into the life of the people, making known how much better light is than darkness, and how sweet it is for the eyes to behold the sun—ennobling the poor man's poverty and spiritualizing the rich man's gold.

I sometimes think that our brethren of the North and West do not fully comprehend how ripe the time is, and how hard the struggle for the fruitful doing of such work. Individuals and communities cannot be forced into power or culture or effectiveness or skill. The desire for these good things must go before their realization. For a glimpse of the self-reliance, the eagerness, the bravery of the South, one has only to visit a Southern college and see the earnest, thrilling desire for the opportunities which the people believe to be concealed in education. The influences that hinder and obstruct cannot wholly restrain or dull this desire, and it grows by what it feeds on. It is something of the spirit, I fancy, that lives for us in the glad, grateful words of young Ulrich Von Hutten, spoken to the bright face of freedom in the morning of the modern world, "Studies are blooming, minds are awakening. It is a joy to be alive." It is the spirit which will cause history to place our epic period not in the heroic days of '61 to '65, when our soldiers performed prodigious feats of arms, but in the grinding days from '65 to '95, when they and their sons rose above the stupendous difficulties that followed in the wake of war.

The going of a Southern boy to college is no conventional, quite ordinary stage in the life of a youth. It is always an event, and sometimes a tragedy. It most frequently means that far away in the home the father and mother work harder and rest less, and scrimp here and save there, eating skim milk and oatmeal, and taking counsel in the still hours of the night

how they may give their child the privileges they did not know, and the entrance into the clearer, fresher, sweeter life denied to them. I have seen a feeble woman's face set with stern resolve and glow with ineffable love at the very thought of her boy putting on his armor at the price of her own life. The dignity and power and political value of childhood and youth as the fittest and ultimate concern of the legislator, the preacher, the political economist, the true statesman, has entered our life as one hundred years ago it entered the life of the French, aroused by the mad earnestness of Rousseau and aghast at the havoc of revolution, or as it entered into the thought of the English, a generation later, to the music of Wordsworth's immortal ode.

Higher education in the South does not exist for its own glory, for the fame of its teachers, for the pride of sect, or for any subjective or selfish reason. Its aims must be pure public aims and its service public service.

In a portentous era and with inadequate means, it stands for the beneficent force that must transmute the tumultuous, untrained life about it into self-government perfected by education—its material the youth of a new life and a new century, and its strong fortress the self-conscious state, no longer a synonym for rude force, but an expression of Christian sympathy and unity and conscience seeking to realize and show forth the dignity of democracy, the beauty of popular concord and justice, and the majesty of republican citizenship.

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Higher education in Arkansas, by President A. C. Millar (June, 1892); Samuel Chapman Armstrong, by Herbert Welsh (September, 1893); The South and its problems, by Superintendent Lawton B. Evans (April, 1894); Woman's education in the South, by Mary V. Woodward (May, 1894); Student life in Southern colleges, by Professor F. C. Woodward (December, 1895).

IV

THE SIGNIFICANCE OF HERBART FOR SECONDARY AND HIGHER EDUCATION

In this paper the word "Herbart" is used to denote the whole theory of education which is at present associated with this name. It would not be profitable to limit the discussion merely to what Herbart himself may have done.

The first inquiry I wish to propose is, What sort of assistance should one expect from such a source?

The first duty of a disciple is to transcend his master. This fact must ever be borne in mind when we are inquiring what significance a man who lived in the past has for the present. Authority may conserve, but it cannot advance knowledge. In all ages there have been periods when men blindly adhered to their masters. In ancient Egypt mathematical discoveries were recorded in the sacred books, where they took on the infallibility ever ascribed to sacred writings. Errors might not be corrected, or truths extended. During the Middle Ages when men gave their minds to introspection, science was stationary, resting as it did on the unquestioned authority of Aristotle. Bacon struck out anew in the path of inductive research, but his method encouraged his disciples to transcend him both as to facts and processes. Had this not been the case, science would be as dead to-day as it ever was during the Dark Ages. The history of higher mathematics reveals the same thing. Standing upon the basis laid by his masters, each new giant has built for the future. It is said that Professor Klein of Göttingen has undertaken to make his lectures in successive years cover the known field of mathematical research. He has advanced steadily for twelve years, but the end is not yet in sight. Mathematical progress would have

been arrested at any point where the disciple was unwilling or unable to transcend his master. The significance of any leader of the past, therefore, is to be sought not so much in the stage of development in which he wrought, as in his point of view, his methods of organization for the constituent elements of a given science.

If this holds for a pure science like mathematics, it is doubly true for an applied one like education, where every new stage in social development, every new discovery in psychology, every advance in knowledge, changes the conditions of its highest success. Herbart died more than fifty years ago. Since his day psychology has had a new birth, knowledge has increased in a geometric ratio, the conditions of economic and political life have been revolutionized. The insights of his day are but stages in the development from the past to the present. It is clear, therefore, that in seeking assistance from a former leader we shall not be helped by falling back into any outgrown system of metaphysics or antiquated theories of mind or morals, but that, as already indicated, we shall find Herbart's significance for us to lie chiefly in his organization of the purposes and means of education.

The first point to be noted is that Herbart discovered what has always been the real, if sometimes the concealed, purpose for which men educate the young; namely, the preparation for civilization, or for citizenship in the broad sense of the term. It is only because educational ideals tend to lag behind the progress of the world, that we seem to be educating for individualistic or for formal purposes. It sounds well to say we are educating man as man, but we must reflect that man as man is only a Robinson Crusoe. He becomes significant only when he is in relations with his fellows, and to the extent that his relations are universal. The monk standing for years on the top of a stone pillar, and fed by the people by means of a basket let down by a string, was a sort of ethical Robinson Crusoe, insignificant to the extent of his isolation.

During all great periods of history, men have educated their children for what they have conceived the most important

community duties: in Greece for war and art; in Rome for law and conquest; during the Middle Ages for introspective research into theology and pure reason; in Germany during the Napoleonic wars for political autonomy. Now that the world is attempting universal education, it is forced to discard belated ideals brought about by the natural lag of the professional mind, and to recognize, as every great age has done, that education is for civilization as it exists. As Colonel Parker rightly says: "The purpose of education to-day is neither knowledge nor discipline," it is citizenship through both. Since this ideal citizenship embraces every duty of man to his fellows in all their manifold organizations into social, business, religious, and political groups, it is in the highest sense ethical. This fact explains the Herbartian watchword, *Instruction that makes for character*, which means that secular instruction, in its highest function, is ethical, since it aims to make a man not only willing but able to be an ideal citizen.

If history bears out this interpretation of the ultimate function of education, we are helped by the Herbartian conception of an ethical or social moral revelation of the organized social world, through the studies of the curriculum. This view readjusts our conception of the significance of discipline and of useful knowledge in education, since from being ends they become means. Both are as essential as they always have been, but in a new way. They no longer dominate the selection of studies, nor do they alone prescribe methods of teaching. If preparation for social living be the end, then the needs, the necessities, the opportunities of civilization itself must be our guide in the selection of studies. Upon what other principle can we explain the work of the kindergarten, the curriculum of the elementary and high school, the variety of knowledge, skill, and occupation represented by our great universities? Under any other theory most of the things now done in education must, even though tolerated, be disapproved.

That this view of the purpose of modern higher education is rapidly making its way, may be seen from any university

catalogue. A large percentage of the undergraduates are devoting much of their time to studies that reveal the more modern aspects of our civilization. These are the natural sciences, which lie at the basis of our material advancement; economics, which deal with the conditions of industrial prosperity; and political and social science, which reveal still other important aspects of our community welfare. It is a question for college men to consider, whether all their courses for undergraduates are properly balanced between the old and the new phases of education. Are some classes still living exclusively in the past, some entirely in the present? How can a well-balanced modern man be graduated from our colleges, if on the one hand he is ignorant of our spiritual past as revealed in language, history, and philosophy; or, on the other, is in danger of becoming a dreamer in a busy world, because he has never been brought in touch with those studies that do the most to reveal civilization as it is to-day? The demands of the present call for a real correlation between the studies that reveal the primitive sources of our civilization and those that show its modern development and the conditions for its future progress. It is suggested, therefore, that every prescribed or permitted course of study for undergraduates, while allowing emphasis upon important departments of knowledge, should, at the same time, provide for sufficient study of the other departments, so that each student, through a closely knit but comprehensive knowledge of types, may be able adequately to understand our complex civilization; to live in close touch with his neighbors in their public capacities; in short, like one of Leibniz's monads, to reflect from his angle of activity the whole world of striving and doing. In this case we have the man of many-sided interest, not merely the recluse, the cynic, the priest, or even the professor; we have the man of catholic spirit, not the material or the social egotist. If, indeed, the letter of Herbart has not said all this, it may still be found in the spirit of Herbart, for it is involved in the idea that the supreme purpose of education is the ethical revelation of the modern world to the student.

The purpose of education as thus conceived being once accepted, important consequences follow. For an extended exposition of this idea, as contrasted with that of formal gymnastic training as the purpose of education, I need but refer you to the recent Report of the Committee of Fifteen. The convincing argument of that Report makes it unnecessary to consume time in further exposition of this point.

But even when upon this basis we have selected our studies, we have but just begun our work. Most of the great problems still remain. It is easy to prove that civilization demands mathematics, but difficult so to organize and teach the study that the native capacities of the mind shall be properly developed. To judge from the common experience of colleges, one is led to believe that current teaching in this branch tends to lead the mind away from rather than toward the higher mathematics. As Professor Dewey remarks, our methods usually succeed in crushing out all spontaneous interest in the subject, even if they do not all but destroy the capacity for it. Similar problems arise for language, science, and history. To what but bad selection, ill adjustment, poor correlation, or stupid teaching can we attribute the fact that boys so eagerly abandon the high school, or dawdle through college, or fail to detect in later years the bearing of much of their education upon the problems of life? Seed sown in winter does not germinate; knowledge planted in a mind left cold by isolated knowledge or bad methods brings but small increase.

This consideration introduces the second important contribution that Herbart has made to the cause of education, namely, the doctrine of mental assimilation, or apperception.

Education has to do with a developing mind, having changing insights, tastes, moods, enthusiasms, dislikes; having also tendencies to good and bad. The pupil before us is not a blank book in which a system of knowledge is to be developed, but a living organism that must assimilate its food. Furthermore, unlike the plant, this organism is free to choose the harmful as well as the helpful food, or to reject both. The psychology of learning becomes, therefore, the foundation of teaching.

It is freely conceded that Herbart himself gave only the initial impulse to modern psychology, which lays stress upon processes rather than upon the classification of their results. The doctrine of apperception discards the needs of so-called faculties as a guide to the selection of studies, and to the methods of teaching them. It selects no material because it is good for the perceptions, or memory, or imagination, or reason, or feelings, or will, and it adopts no methods for the specific reason that they train these faculties. It holds, rather, that if studies are selected for their bearing on the future life of the student, and taught in accordance with certain broad and clearly discernible principles, every native capacity of the mind will find its adequate exercise in an easy, natural manner. It is only an artificial psychology that demands artificial educational means.

The apperceptive ideas formed during the period of adolescence, during which all of secondary and a part of higher education is carried on, are of supreme importance. As President Hall points out, modern life tends to neglect broad, free, vigorous activity of the larger muscles, for delicate refinement of the smaller ones. The outdoor exercise of the pioneer, with his ax, his scythe, his gun, has given place to the sedentary occupations of shop or office. The eye that once scanned the landscape and watched the stars, now scans the line of words fourteen inches distant and four inches long. The old, full tide of emotional life is now dwarfed by convention. All its lions are caged; its birds sing only behind gilded bars. These are disadvantages of our highly conventionalized life, which education must counteract rather than exaggerate. Athletics and manual industry must give scope to the larger muscles and the more primitive emotions. Our course of study must take account of the culture-epochs of the race, to the extent at least of developing the deeper and more significant emotional life. Some of our studies should appeal to the primitive feelings of enthusiasm, patriotism, friendship, heroism, courage, determination; they should also touch the softer emotions of sympathy and affection. We must see to it that the fresh

young life committed to our charge is not desiccated by too much highly conventionalized learning. To succeed thoroughly upon the fraction of activity assigned to each in the division of labor, we must have a whole man to start with.

Thus far the situation is as follows: (1) Broadly speaking, we look to civilization in its genesis, development, and present status as a guide to the selection of studies. (2) We look to the logical unfolding of the subject-matter, as modified by the general laws of apperception, for our guide in the sifting, arrangement, and co-ordination of topics in the various studies.

The crucible, however, in which all these elements find, or fail to find, their organic union is the recitation. It is here, in the quick sympathy of mind with mind, that insights are developed and healthy emotions aroused. It is here too that thought and memory are developed, that knowledge is co-ordinated, so that in a quick flash of intelligence we discern what bearing some word or deed of old has upon the actions of men to-day. It is to the recitation as a scientific adjustment of knowledge to mind that I wish chiefly to direct your further attention, for it is a subject to which the theories of Herbart make a substantial contribution.

The recitation is scientific in two senses, for it must be regarded from a double standpoint, viz., the matter to be learned and the mind that does the learning. It is in the happy synthesis of these two elements that the fine art of teaching consists. There is then a distinction to be made between a method of science and a scientific method. The first may ignore everything but the development of the subject-matter; the second must make full account not only of the subject-matter but of the power of comprehension; it must also consider the bearing that the recitation has upon the mind in all its aspects; it must regard the effect of to-day's lesson upon that of to-morrow; it must never lose sight of the fact that the correlation of knowledge is a principle to be observed, even if it is not always a programme to be followed.

In a certain sense high-school and college teachers may

safely discard the refinements of method so often practiced in elementary schools. The more the mind is developed, the less need it has for short and easy steps, or for the multitude of devices that are so often resorted to in primary education for leading on the immature or feeble-minded. In another, and more important sense, however, no teacher needs scientific skill more than we ourselves. Our pupils come to us, for the most part, with the accumulated evil effects of mechanical teaching. All their knowledge is highly conventionalized. It is formal, narrow in range, and mostly unrelated to anything alive in the world. It is ours to wake up these educationally dormant minds. We must see to it that some of the splendid enthusiasm found in professional schools takes hold of our college and high-school students. Youth is quick in response to every earnest influence leading to higher ideals of conduct. It is deaf only to the artificial, the sentimental, the formal. None of these can light a fire in the heart of youth.

Language and mathematics come the nearest to being self-operating instruments in education, since of all branches they demand the least of the teacher and the most of the pupil. The minimum of teaching—namely, the setting of tasks and the examination of pupils during the recitation—may bring what some deem good results, since there is an almost mechanical adjustment of difficulties to power of overcoming them. The double translation to and from the vernacular compels the pupil to look up the meaning of all the words, and to determine their grammatical construction in order to arrive at or express the meaning. So likewise, the setting of problems for solution in mathematics compels an amount of effort on the part of the pupil quite out of proportion to that demanded of the teacher. Were the gymnastic theory of education the best, this might pass for good teaching, since the pupil is compelled to do a large amount of work. But when we once entertain the higher ideals of education, such teaching is seen to be woefully deficient. Furthermore, it leads to humiliating failure in the other departments, which have not yet become such perfect instruments for making students

work. It is worth while, therefore, from every consideration, to inquire carefully into the requisites of a good recitation.

It is upon two primary stages of mental activity that Herbart bases his general laws of method. The first stage is that in which the mind gives itself up to the contemplation of an object. This self-surrender to objective facts ranges from the phase of wonder, which Plato says is the beginning of knowledge, to the absorption of the philosopher in the ultimate facts of the universe. Herbart calls this plainly recognizable stage of knowledge *absorption;* Rosenkranz calls it *estrangement*, but both mean the same thing. The latter declares that all culture, whatever may be its special purport, must pass through two stages, that of estrangement and its removal. The second stage is, therefore, the removal of the estrangement. It is the self-conscious recovery from absorption in the new and strange. Herbart calls this second stage *reflection*, describing it as an act of assimilation, which fits the new into the old experience. The wonder of the child changes to pleased intelligence as soon as he understands; the open mouth of the rustic at the fair gives place to a look of intelligent satisfaction as soon as he comprehends the novel spectacle; the minds of all return to self-conscious poise, at each recovery from the states of absorption, wherein the self is for the moment lost in the contemplation of the external and foreign. So constant is this interchange between absorption and reflection that Herbart calls them the inspiration and expiration of the soul.

This shuttle-like movement of our daily thinking is sometimes conceived as extending so as to cover whole courses of study, in which the periods of absorption in the distant or foreign last for years. Such, for instance, would be a study of the ancient languages or philosophy in which there should be no effort to make reflection assimilate the past to the present life. Dr. Harris, I am informed, once wrote an article on the Dons of Oxford and Cambridge, describing them as men who had become so completely absorbed in the ideals of the past that they were of little practical use to their own day and genera-

tion. They had so completely estranged themselves that the return to the concrete relations of the present was practically impossible. Such men see life in a dream. Their senses may respond mechanically to stimuli, but in reality they are antique minds dwelling in modern bodies. This type of character could hardly be esteemed outside of academic circles. It may perhaps be argued that this self-alienation from modern life for considerable portions of time will strengthen the mind, provided complete recovery is attained in the end. The danger is, however, that, if we allow the mind to wander too long, it will lose the power to synthesize its knowledge with the realities of to-day, so that the man will either discard his treasure as too remote to be of value, or else, clinging to his riches, he will pass his life among his ancestors. The Herbartian view seems to offer the safer application of the idea of self-estrangement and its removal, since the mind is encouraged to come to itself constantly in the light of its whole experience as developed both in and out of the school. The idea of correlation of studies does not allow ancient language, history, politics, economics, art, philosophy, to be divorced from their correlatives of to-day, but uses the facts of the present as the basis of our apperceptive centers for the past.

In our first apprehension of the double process of absorption and reflection, we may consider together the first two stages of what Herbart conceives to be a rational method, namely, *clearness* and *association*. If the mind is to lose itself for the moment in the contemplation of the new, it is evident that elements of the new must come clearly before it in proper sequence, and with all the force and reality possible. The element of wonder, or at any rate of pleasing surprise, is not undesirable even with high-school and college students. But very soon there must be sufficient reflection to give these facts significance enough to keep the student intent upon his problem until it is solved. In other words, association must enter in order that apperceiving centers may be utilized and developed. To illustrate these two stages with a familiar example, let us suppose that the pupil in geometry has reached

the Pythagorean proposition concerning the square on the hypotenuse. Instead of plunging headlong into Euclid's demonstration, the teacher may well cast about for some gradual approach that shall enable the student more clearly to master the elements. Should he become interested in ocular demonstrations, no harm will be done. The simplest illustration of a single case of this proposition may, perhaps, be found in mosaic work in which the squares are filled with right-angled triangular tiles. A drawing will show that the squares on the two legs equal four triangular pieces, while the square on the hypothenuse also equals four triangular pieces of the same size. Turning to our history of mathematics, we find that the Egyptians had a constant incentive for the development of geometry in the annual survey of their lands made necessary by the overflow of the Nile. We find also that Pythagoras, whose name this proposition bears, probably learned from them that three lines in the ratio of three, four, and five, will make a right-angled triangle. His quick perception enabled him to see that the sum of the squares of three and four equals the square of five. The story that upon making this discovery he sacrificed a hecatomb is at all events interesting, whether true or not. We have now examined two special cases of this proposition. The question as to its universality will now naturally lie close to the pupil's consciousness. If the teacher is not afraid of wasting time in gradual approaches through the making clear of the elements, he may pass on to the year 1114 B. C., and present a universal ocular demonstration by the Hindoo Bhâskara. His figure is constructed by allowing the square on the hypotenuse to inclose the whole triangle, and in making each of the other three sides of the square the hypotenuse of another inscribed right triangle of the same dimensions as the first. In the middle will remain a small square, each side of which is the difference between the long and the short leg of the triangle. By rearranging these triangles into two rectangles at right angles to each other, with the small square placed in the corner, we have an ocular demonstration, which the pupils can

verify by drawing, cutting out, and rearranging. The only explanation that Bhâskara vouchsafes is the single word, *See*. Thus far we have had three steps in clearness, with their appropriate associations: the mosaic with its isosceles right triangles, Pythagoras's right triangle with sides respectively three, four, and five, and Bhâskara's appeal to the eye. We may now proceed to the more rigid demonstration of Euclid, about whom some appropriate facts may be stated, as, for instance, that his book is still extensively used in England as an introduction to geometry. In drawing the ordinary Euclidian figure, we see that the square on the hypotenuse is divided into two parts, with which the squares on the legs may be compared. Being of different shapes, however, we cannot compare them directly, but perhaps we may be able to compare their halves. Thus we proceed to show, through an appeal to former knowledge, that the triangles constructed are halves of their respective rectangles, and that they are equal, having two sides and the included angle of the one equal to two sides and the included angle of the other. In this careful step by step approach each element comes in its appropriate place, is grasped with perfect clearness, is associated with its proper apperceiving ideas, while the whole is illumined with a glow, more or less bright, of human interest. The mind of the pupil is pleased with the conscious mastery of a difficult problem, instead of being dazed by what Schopenhauer calls the "hocus-pocus" of too precipitate Euclidian demonstration. As an illustration of neglect of these fundamental steps, I will confess that my senior class in psychology recently struggled for three days over Professor James's chapter on reasoning, in which there is a wilderness of words, until they were led to clearness upon the few fundamental elements by being asked to identify the wood of a pencil, and to find the purpose of an isolated part of a catch for a window blind. As soon as there was clearness concerning the elements, the whole chapter became significant; notwithstanding the fact that the author had chosen the first instead of the second figure of the syllogism to illustrate the reasoning process in sense-perception.

It is in the matter of clearness in the presentation of the elements of a lesson that the *orderly* mind especially manifests its strength; whereas, in forming the apperceiving associations, we need the ready questioner, the sagacious, fertile mind, which is able to give full, rich meaning to what seems at first insignificant, if not stupid, to the pupil. It may be seen also that these two steps are particularly important for memory. There is small need for mechanical memory for that whose elements are presented with vivid clearness, and which is firmly cemented to former knowledge through intimate association. It is only bad teaching that requires painful drill in mechanical memory. Clear apprehension, coupled with the repetition that comes from close and frequent association, will ordinarily fix knowledge securely in the mind. In this fact is found the explanation why German children remember so much history and geography and mathematics without the use of books. In science teaching the value of orderly clearness in the presentation of elements is generally recognized. Their association into interpreting groups of ideas is equally essential. In botany, for example, function is the all-important conception in the formation of the modes of comprehension which I have called apperceptive centers. The notion of the dispersal of seeds is the key to a large number of these centers. Thus the function of the hooks on the burr, the down on the thistle or dandelion, the wings on the maple or tulip seeds, the hard covering on apple seeds, and on nuts, becomes the starting places for groups of interpreting ideas relating to dissemination. The devices of nature for the fertilization of flowers, such as the presence of nectaries in both male and female blossoms, give rise to equally important apperceptive groups for this class of facts. In a similar way, the functions of leaf, stem, root, blossom, fruit become centers of crystallization for association.

In advanced mechanics it is of great importance that the student should learn to use his imagination freely in the apprehension of spatial relations. This power is acquired through the building up of concrete pictures by means of drawings, of graphical methods of representing the interaction of two ele-

ments like time and motion, or of picturing to the mind the lines of magnetic force. Then the development of the causal idea for all phenomena, like the idea of function in botany, becomes the cementing agency for the associations to be made among related elements.

The apperceiving centers to be developed in literature depend upon the nature of the matter and the leading purposes of the teacher. Thus, in the study of a play of Shakspere like *The Merchant of Venice*, the character of each prominent actor may become the center of an interpreting group of ideas. One should understand Shylock, and Antonio, and Portia well enough to know their method of looking at life, and to be able, it may be, to predict how each would act under given circumstances. Then there is the whole movement of the play, the development of the drama through the action of the *dramatis personæ*, each point of which becomes the center for the association of certain related ideas. If we are teaching Dante, each circle of the *Inferno* may be interpreted to mean a method of feeling and acting. The common experience of men in anger, *e. g.*, becomes, in this case, a basis of interpretation, to which new insights into the weakness, the folly, and the consequences of anger are added by a study of the play.

In political economy we have the task of converting the loose, hazy, popular ideas about wealth, labor, capital, rent, taxation, money, wages, interest, and the like into clear, well-defined scientific conceptions. These are transformed at once into apperceptive groups of associated notions which are the foundation of good thinking in this department of knowledge. In Greek grammar the development of verbs from their stems, the etymology of words based upon a knowledge of prepositions and roots, become in like manner centers of association. Every subject, in short, has its root ideas, which, clearly presented in their elements and firmly united by association, become the basis for easy, effective progress, and for efficient memory.

Enough has now been said, perhaps, to demonstrate the

significance of the two stages of rational method already presented, viz.:

1. Clearness and order in the presentation of the elements of a subject, and

2. The association of related facts into those modes of understanding, or interpretation, which I have called apperceptive centers.

These two stages of method, fundamental as they are, do not, however, exhaust the subject; for reflection is not completed in association. The thinking process involves at least two other elements, which, being correlatives, may also be conveniently considered together. The first of this second group, or the third in the whole scheme, is the arrival at systematic generalizations, or laws and principles, usually through inductive approach; the last stage of method is the full and free application of these laws, partly for the verification of tentative hypotheses; partly for purely pedagogical reasons, such as facility in the use of acquired knowledge, the development of motives for action, or the opportunity further to correlate the various branches of study. In the main, this stage is one of deductive application of general laws. Herbart names the third stage of method—namely, that of the inductive arrival at generalizations—*system;* a name chosen not so much from the process as from the results of reflection. The fourth and last stage, or that of the deductive use of generalizations, we may with the Herbartians call application.

We all recognize the significance of initial inductive research in the various departments of natural science, as well as in other subjects like psychology, sociology, politics, and economics, when these are subjected to the methods of natural science; yet we must not forget that, as Jevons says, all inductive investigation consists of the marriage of hypothesis and experiment. Bacon would hear nothing of hypothesis as a recognized stage of method, and sought to make complete inductive approach to ultimate laws. But Jevons points out in his *Principles of science* that Newton, Descartes, Leibniz, Huyghens, Herschel, Huxley and Tyndall, to say nothing of

Darwin, all transform their partial inductions into hypotheses, which they at once begin to test deductively. The expression "working hypothesis" was a familiar one with Huxley. Herbart's idea of inductive approach to generalizations and their deductive application to experience finds, therefore, abundant justification in the modern application of scientific method. Most deductive syllogisms rest upon recognized inductions, while most concrete reasoning of daily life starts with identification by means of the second figure of the syllogism, then passes on to inductive generalizations by means of the third figure, and finally arrives at verification and application by means of the first.

A good method of teaching must, therefore, heed this fundamental need of the mind. A man that cannot think is not educated, though he may resemble the congressman of whom a colleague said: "You see that man walking with hands behind his back and with bowed head? He thinks he is thinking." The mind must develop the power of analysis, it must attain sagacity in the discovery of the links of association that bind phenomena together by law. The inference to which I would call especial attention is that this sagacity is developed by the self-activity of the pupil, and that self-activity is most effectively promoted by suggestive questions. It is not best to do the thinking for the class by "explaining" to them, while they sit in a state of passive receptivity. Telling is not teaching. It is the climbing of mountains that develops strength. The mind is not developed positively by the doing of easy things, much less by having everything done for it. A considerable part of the student's best thinking should be done in the recitation, where there are both stimulus and corrective. If no thinking is done in the class, then the whole process is remanded to the study, or entirely neglected. A student said the other day that he had spent three years in trying to memorize his mathematics. His classmate remarked that his failure might have been predicted three years ago. It is chiefly for his skill in inductive questioning that Socrates is still remembered.

With the scientist the chief purpose of deduction is, first, the test of hypotheses and then the more complete explanation of phenomena; with the teacher, however, the "tests" and the "discoveries" are mostly formal. It is not expected of high-school or undergraduate college students that they will advance any knowledge except their own. The purposes for which long-continued practice in the application of known principles is insisted upon are, therefore, rather in the interests of pedagogy than of science. The student should indeed learn how to test hypotheses, but a need that far transcends this is that he should attain readiness and skill and efficiency in the application of his newly generated insight into the laws governing human or natural activity. It is to this end that he solves problems in mathematics, applies the rules of syntax and etymology persistently to every page of foreign language translated, identifies the type in each subject studied in biology, applies the law to the explanation of every new phenomenon in physics, sees the principle animating every popular upheaval in politics or industry.

It is also for the purpose of fixing knowledge still more firmly in memory that this final step is taken. Every stage of the recitation has a bearing upon the subject of memory. Clearness — association — generalization — application: each stage is an opportunity to fix permanently in mind the things that should be remembered.

Finally, to emphasize a single point in ethical training, another pedagogical purpose of this systematic exercise in reasoning, which we might keep more steadily in mind than we do, is the correction of the natural confidence of the callow mind in the all-sufficiency of his morsel of knowledge. Nothing is more common among youth, when intoxicated with their first draughts of learning, than to be seized with a seemingly profound skepticism respecting everything that cannot be put under the microscope or into the crucible or scale. To him faith in things not seen is superstition, except in so far as they are subject to scientific inference. Skepticism or agnos-

ticism quite displaces the faith of childhood. To one in this condition, the educated mind has no room for faith. The corrective for this abnormal phase of thinking is to be found in science itself, for a second glance at her mysteries sobers the mind. The hypotheses upon which the scientist most confidently relies are full of incomprehensible things. What article of faith in the intelligence and goodness of the Creator has more astounding difficulties than the undulatory theory of light? Its hypothesis presupposes an ether filling interstellar space to which must be ascribed the most surprising qualities. Herschel declares that we must consider it absolutely solid and elastic. Its elasticity, he says, must be reckoned as 1,148,000,000,000 times as great as that of the atmosphere, so that its pressure per square inch amounts to 17,000,000,000 pounds. There being no interstices in this substance, everything that exists within its folds must be subject to this enormous pressure. Yet the worlds swing silently in their orbits, and man plays out his little drama, unmindful of its annihilating force. It indeed is the merit of science that she destroys superstitions; it is her glory that she assumes the garments of humility. The young will quickly catch her reverent spirit, unless hindered by shallow teaching.

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V

IS THERE A NEW EDUCATION?[1]

The gentlemen who have preceded me in this office have been, in every case, the chief administrative officers of great educational institutions. In their addresses before this Association they have accordingly discussed broad questions of educational policy and educational organization; and they have done so with a vigor and a clearness that greatly delighted and instructed us. On this occasion, however, your president comes not from the administrator's chair but from the pedagogue's stool. He will not apologize, therefore, for detaining you with a somewhat academic discussion of a more or less technical subject.

The title of my discussion is designedly thrown into the form of a question; for my purpose is, if possible, to provoke a difference of opinion—always a healthier and more productive intellectual state than the dull mediocrity of agreement. Difference of opinion begets doubt, doubt begets inquiry, and inquiry eventually leads to truth. Vergil's fine line,

Felix qui potuit rerum cognoscere causas,

is profoundly true; but more fortunate still is he who comes to his knowledge by the sure method of honest doubt.

For a generation we have been doing lip-service to the doctrine of evolution; but only with great slowness and difficulty do our old forms of speech and our old habits of mind fit themselves to the new point of view that makes so strong an appeal both to our reason and to our imagination. In no department of knowledge is this more true than in the field of education. For education is essentially a conservative process; it cherishes its time-worn instruments and reveres its time-honored standards. The treasures of the mind are too precious to be

[1] Presidential Address delivered before the Association of Colleges and Preparatory Schools of the Middle States and Maryland, at Easton, Pa., November 29, 1895.

lightly exposed to the loss or harm that might come to them through change. Yet the opinion has found lodgment among our craft that after all, and despite the excellence of old methods and old standards, the educational theory and practice of a given age or generation must stand in close relation to its intellectual and ethical ideals and to the material fabric of its civilization: and surely all three of these habitually vary, not only over long periods but in relatively short intervals of time. It is a grave matter for the teacher if virtue is identical with knowledge, as Socrates taught; or if it is the result of habit, as Aristotle held; or if it is the cunning invention of rulers, as Mandeville suggested; or if it is mere skill in calculating the chances of pleasure and pain, as Bentham laid down. It is important, too, primarily for the higher education, but eventually for the lower schools as well, if our intellectual ideal is represented by the active mind of a Leibniz or a Gladstone, with its immense energy and broad range of interests; or if it is better typified by the narrow, plodding specialization of a Darwin or of those Teutonic philologers who are unduly distracted if their investigations cover more than the gerund or the dative case. Still more directly must our education depend upon the material equipment of the time. In this day of innumerable printing-presses, with a power of production sadly out of proportion to their power of discrimination, of instantaneous diffusion of knowledge, it is quite inconceivable that we should not find ourselves forced to con anew the grounds on which rest the principles and methods that have come down to us from the age of manuscripts and pack-saddles. Such a process of questioning has been under way for some time past, and has contributed in no small degree to that marvelous enthusiasm for education and belief in it, the evidences of which are to be seen on every hand.

There are three avenues of scientific approach to the study of education, and in each of them the evolutionary point of view is not only illuminating but controlling. These three avenues are the physiological, the psychological, and the sociological. Their points of contact are many and their inter-

relations are close. Modern psychology has already given up the attempt to treat mental life without reference to its physical basis, and it will sooner or later regard any interpretation as incomplete that does not relate the individual to what may be called the social life or consciousness. Man's institutional life is as much a part of his real self as his physical existence or his mental constitution. *Robinson Crusoe* is, in one of the catch phrases of the day, a barren ideality.

It must be admitted that this point of view is both very old and very new. It is very old, for it was Aristotle himself who wrote, "Man is by nature a political animal. And he who by nature, and not by mere accident, is without a state, is either above humanity or below it."[2] It is also very new, for it is in flat contradiction to the doctrine of Rousseau, "Compelled to oppose nature or our social institutions, we must choose between making a man and a citizen, for we cannot make both at once"[3]—the crudeness and superficiality of which have not prevented it from exercising a wide and long-continued influence. Modern philosophy confirms here, as so often, the analysis of Aristotle, and it rejects, as is becoming customary, the extreme individualism of the eighteenth century. The significance of this for our educational theory is all-important.

Returning now to the first of the three pillars on which the modern study of education rests—the physiological—it may be useful to recall briefly what consideration has been given to it in the past. All of the older culture-nations laid stress upon it, and some of them dealt with it in systematic fashion. But the Greeks alone understood the educational value of play. Their great national games combined systematic physical training and play in a way that we have not yet succeeded in equaling. The ascetic ideal that ruled the schools of the Middle Ages left no place for a continuance of the Greek practice, and it was forgotten. We find ourselves to-day struggling to imitate it. In Germany systematic physical training is made much of in education, but genuine play is not prominent.

[2] *The Politics of Aristotle*, I, 2 (Jowett's translation, Oxford, 1885, p. 4).
[3] Rousseau's *Émile* (Payne's translation, New York, 1893), p. 5.

In England, on the contrary, play has been found so successful in developing strength and suppleness of body and sturdy, independent character that anything approaching systematic, formal training is regarded as almost unnecessary. In this country the present tendency is to develop both elements, after the fashion of the Greeks, and it is to be hoped that the outcome will be even more satisfactory than it was at Athens and at Corinth.

But physical and physiological considerations cut far deeper than this. They demand a hearing when questions of school hours and recesses, of programmes and tasks, of school furniture, of text-books and blackboards, of light, heat, and fresh air, are under discussion. On all of these topics we have recently learned much that has not yet found its way into our practice. College faculties and school teachers, framers of examination tests, donors of laboratories and dormitories, and, most of all, architects, are as a rule oblivious to the vital interest that the pupil has in matters of this kind. Considerations of tradition, convenience, cost, and external appearance are allowed full swing, and the growing youth must fit the Procrustean bed as best they can. The signs of mal-nutrition and weakness, as described, for example, by Warner, and the laws of mental and physical fatigue, as arrived at by such investigations as those of Mosso and of Burgerstein, are about as familiar, to members of this Association for instance, as are the Laws of Manu. And yet they affect vitally every young man or young woman that enters a schoolroom or a college. No amount of thundering eloquence on the value of the ancient classics, no emphasis on character as the sole end of education, can make amends for our failure to study the facts dealing with the physical and physiological elements in education, and for our delay in applying them. We need to be strongly reminded that wickedness is closely akin to weakness, and then to consider the moral consequences of our physiological ignorance.[4]

[4] Compare "Moral education and will-training," by G. Stanley Hall, in *Pedagogical Seminary*, II. 72–89.

The relation of psychology to education is the one subject on which the teacher of to-day is supposed to be informed. Normal schools without number, and here and there a college, give definite instruction in the subject. Yet a careful inspection of the most popular text-books in use, and visits to some hundreds of classrooms, have convinced me that the results of this knowledge, if it exists, are, in the field of secondary and higher education, almost *nil.* In this respect the elementary teacher is far in advance of us. No secondary school or college in America can show teaching to compare, in mastery of scientific method and in technical skill, with the best teaching to be seen in many of the public elementary schools, particularly in the Western States. In consequence of this, we may safely assume that pupils fresh from the vigorous intellectual and moral growth of a well-conducted elementary school, will turn aside from the machine methods and dull, uninspiring class-exercises of our average academy with disgust. The new educational life-blood is flowing most freely and vigorously in the veins of the elementary teacher. Here and there a secondary schoolmaster, and here and there a college president or professor, takes a genuine and intelligent interest in education; but the vast majority know nothing about it and care less. They turn on and off a certain amount of educational material each day, and accumulate what they are pleased to term "experience"; but their relation to education is just that of the motorman on a trolley-car to the science of electricity. They use it; but of its nature, principles, and processes they are profoundly ignorant. The one qualification most to be feared in a teacher, and the one to be most carefully inquired into, is this same "experience." I am profoundly distrustful of it. The pure empiricist never can have any genuine experience, any more than an animal; because he is unable to interrogate the phenomena that present themselves to him and so to understand them. The scientific teacher, the theorist, on the contrary, asks what manner of phenomena these are that are before him, what may be their inner relations, and on what principles they are based. This,

of course, is the first great step, taken by all scientific method, toward a knowledge of causes. It is at this point that we reach the real reason for the need of an accurate knowledge of psychology on the part of the teacher. His dealings in the schoolroom are primarily with mental processes and mental growth. Unless these are scientifically studied and understood, or—and this does not happen often—unless natural psychological insight comes to the rescue of psychological ignorance, the teaching is bound to be mechanical; and the longer it is continued, the more "experience" is acquired, the more wooden and mechanical it becomes.

Within two years I was present at an exercise in modern history, given to an undergraduate class, averaging over eighteen years of age, in one of our Eastern colleges. The text-book in the hands of the students was of a very elementary character, and is much used in public high schools, both East and West. The teacher was a college graduate, and had held his position for several years. These years had been years of "experience," and would have been strongly urged as an important qualification had his name been under consideration for promotion or for transfer to another institution. Yet the entire hour that I spent in his class was given up to the dictation of an abstract of the text-book. This, he told me, was his usual method. The students took down the dictation, word for word, in a dull, listless way, and gave a sigh of mingled despair and relief when it came to an end. This process went on several times weekly for either one or two years. I ascertained from the instructor that he called it "hammering the facts home." He is, for aught I know, "hammering" yet, and now has some additional "experience" to his credit. So have his pupils.

Not long ago a prominent publishing firm issued a widely advertised text-book on a subject much taught nowadays. For the purposes of real teaching, of arousing interest and enthusiasm in the subject, and of stimulating the student to pursue it farther, to reflect upon it, and to make its lessons his own, it was as ill-adapted as any printed matter occupying

the same number of pages could be. As a compendium of bare facts and dates to be committed to memory, and reproduced in answer to definite questions, it was clear and concise. Despite this fact, the publishers have recently issued a circular commendatory of the book, that contains two-score cordial indorsements of it as a text-book, over the signatures of as many high-school and college teachers. I interpret that to mean that those two-score teachers lack either educational intelligence or educational conscience; perhaps both.

No amount of psychological learning could make it impossible for the inquirer to find cases like these, and the hundreds of others of which they are typical, in the schools and colleges; but a psychological training on the part of the teacher would go far to diminish their number. Professor Royce pointed out[5] several years ago that what the teacher has chiefly to gain from the study of psychology is, not rules of procedure, but the psychological spirit. The teacher, he adds, should be a naturalist and cultivate the habit of observing the mental life of his pupils for its own sake. In this he will follow the method common to all naturalists: "What is here in this live thing? Why does it move thus? What is it doing? What feelings does it appear to have? What type of rudimentary intelligence is it showing?" Such questions as these form the habit of watching minds, and of watching them closely. This habit is the surest road to good teaching, and its formation is the best service that psychology can render to the classroom. Until a teacher has formed that habit and subordinated his schoolroom procedure to it, he is not teaching at all; at best he is either lecturing or hearing recitations.

We are chiefly indebted to the students and followers of Herbart for the present widespread interest in this country in two psychological doctrines of the greatest importance for all teaching—the doctrine of apperception and the doctrine of

[5] "Is there a science of education?" in EDUCATIONAL REVIEW, I: 15–25; 121–132.

interest. The former has to do with mental assimilation, the latter with the building of character and ideals. I know of no more fruitful field for the application of both of these than the freshman year of the college course. My observation has taught me that the work of the freshman class in college is, as a rule, very ineffective. College teachers who admit this fact are in the habit of accounting for it by alleging the difficulty of welding into a homogeneous mass the new students of different advantages, training, and mental habits. The task is more than difficult; it is impossible, and ought never to be attempted, much less encouraged. That it goes on year after year in a hundred colleges is due to the strait-jacket system of class teaching by which we defy the rules of God and man to the glory of what, in our professional cant, we call "sound education." If we could secure a hearing for the doctrine of apperception, all this would be changed. It would be recognized in our practice as it is in our faith that the mind is not a passive recipient of the impressions that reach it; that it reacts upon them, colors them, and makes them a part of itself in accordance with the tendency, the point of view, and the possessions that it already has. This tendency, this point of view, and these possessions differ in the case of every individual. Instead of overlooking or seeking to annul these differences, we should first understand them and then base our teaching upon them. If the first month of freshman year were spent in carefully ascertaining the stage of development, in power and acquirement, that each pupil had reached, it would be possible so to order and adjust the work of the year as to make it useful and educative. I have known case after case in which the opposite policy of treating all upon one plane, and making the same demands upon all, has made a college course a source of positive harm. It also accounts, in greater measure than we are aware of, for the large proportion of students who fall away at the end of the freshman and sophomore years. Yet so long as college teachers know so little psychology as to cling to the old dogma of formal discipline, and continue to pound away on so much mathe-

matics to train the reasoning powers and so much Greek grammar to train something else, regardless of the content of the instruction and of all other considerations—just so long will one mind be lost or injured for every one that is saved or benefited. As Colonel Parker has so forcibly said, "We dwell on those who have been saved by our older methods, but who has counted the lost?"

The situation is not very different with respect to the doctrine of interest. We continually complain that valuable and necessary instruction given in school and in college is forgotten, is not retained, extended, and applied. The fault lies partly, no doubt, with the pupils, but largely with ourselves. We have still to learn what interest means, how it is changed from indirect to direct, and how it is built up into a permanent element of character. We are inexperienced in seeking out and seizing upon the present and temporary interests of the student, and in using them as a factor in training. It is a common thing to hear it said that since life is full of obstacles and character is strengthened by overcoming them, so the school and college course should not hesitate to compel students to do distasteful and difficult things simply because they are distasteful and difficult. I do not hesitate to say that I believe that doctrine to be profoundly immoral and its consequences calamitous. But, it is answered, you certainly would not trust to a student's whims and allow him to do or not do as he pleases. Certainly not; and that is not the alternative. The proper and scientific course is to search for his empirical interests, not his whims, and to build upon them. This is not always easy; it requires knowledge, patience, and skill. Therefore we do not do it. It is far easier to treat the entire class alike and to drive them over the hurdles set by a single required course of study, in the vain hope that the weak and timid will not be injured as much as the strong and confident will be benefited, and that somehow or other the algebraic sum of the results of the process will bear a positive sign. I earnestly commend to every high-school and college teacher the study of these two principles, apperception and

interest. I do so in the firm belief that the practical result of that study would be an immense uplifting of the teaching efficiency of the institutions represented in this Association.

What, for lack of a better term, I call the sociological aspect of education is, in many respects, the most important of all. Under this head are to be put such questions as those that deal with the aim and limits of education, its relation to the state, its organization and administration, and the course of study to be pursued. I can refer to but a single one of these topics. Dr. Harris, in the opening paragraphs of his well-known report on the correlation of studies, dealt a final blow to the idea that the course of study is to be settled either by tradition or by conditions wholly psychological. "The game of chess," he points out,[6] "would furnish a good course of study for the discipline of the powers of attention and calculation of abstract combinations, but it would give its possessor little or no knowledge of man or nature. . . Psychology of both kinds, physiological and introspective, can hold only a subordinate place in the settlement of questions relating to the correlation of studies." He goes on to show that the chief consideration to which all others are to be subordinated is the "requirement of the civilization into which the child is born, as determining not only what he shall study in school, but what habits and customs he shall be taught in the family before the school age arrives; as well as that he shall acquire a skilled acquaintance with some one of a definite series of trades, professions, or vocations in the years that follow school; and, furthermore, that this question of the relation of the pupil to his civilization determines what political duties he shall assume and what religious faith or spiritual aspirations shall be adopted for the conduct of his life."[7] It is at this point that the study of education from the sociological point of view begins. Instead of forcing the course of study to suit the necessities of some preconceived system of educational

[6] *Report of the Committee of Fifteen on elementary education* (New York, 1895), p. 42.

[7] Ibid., p. 41.

organization, it should determine and control that organization absolutely. Were this done, the troubles of the secondary school, the Cinderella of our educational system, would disappear. Just at present it is jammed into the space left between the elementary school and the college, without any rational and ordered relation to either. The ever-present problem of college entrance is a purely artificial one, and has no business to exist at all. We have ingeniously created it, and are much less ingeniously trying to solve it. Leibniz might have said that mental development, as well as nature, never makes leaps. It is constant and continuous. The idea that there is a great gulf fixed between the sixteenth and seventeenth, or between the seventeenth and eighteenth, years, that nothing but a college entrance examination can bridge, is a mere superstition that not even age can make respectable. It ought to be as easy and natural for the student to pass from the secondary school to the college as it is for him to pass from one class to another in the school or the college. In like fashion, the work and methods of the one ought to lead easily and gradually to those of the other. That they do not do so in the educational systems of France and Germany is one of the main defects of those systems. The American college as a school of broad and liberal education, a place where studies are carried on with reference to their general and more far-reaching relations, is indispensable for the very reason that it permits and encourages the expansion and development of school work in the broadest possible way, before the narrow specialization of the university is entered upon. Happily, there are in the United States no artificial obstacles interposed between the college and the university. We make it very easy to pass from the one to the other; the custom is to accept any college degree for just what it means. We make it equally easy to pass from one grade or class to another and from elementary school to secondary school; the presumption always being that the pupils are ready and competent to pass on. The barrier between secondary school and college is the only one that we insist upon retaining. The intending col-

legian alone is required to run the gauntlet of college professors and tutors who, in utter ignorance of his character, training, and acquirements, bruise him for hours with such knotty questions as their fancy may suggest. In the interest of an increased college attendance, not to mention that of a sounder educational theory, this practice ought to be stopped and the formal tests at entrance reduced to a minimum.

Public opinion itself, despite the protests of the pundits of the faculties, is forcing an extension of the course of study. It is one of the best bits of grim humor that our American practice, inherited from the mother country, affords, that the designation "liberal" has come to be claimed as the sole prerogative of a very narrow and technical course of study that was invented for a very narrow and technical purpose, and that has been very imperfectly liberalized in the intervening centuries. It ought to soften somewhat the asperity of teachers of Greek to remember that the very arguments by which they are in the habit of resisting the inroads of the modern languages, the natural sciences, and economics, were used not so many hundreds of years ago to keep Greek itself from edging its way into the curriculum at all. Paulsen is indubitably right in his insistence upon the fact that the modern world has developed a culture of its own, which, while an outgrowth of the culture of antiquity, is quite distinct from it. It is to this modern culture that our education must lead. The first question to be asked of any course of study is, Does it lead to a knowledge of our contemporary civilization? If not, it is neither efficient nor liberal.

In society as it exists to-day the dominant note, running through all of our struggles and problems, is economic; what the old Greeks might have called political. Yet it is a constant fight to get any proper teaching from the economic and social point of view put before high-school and college students. They are considered too young or too immature to study such recondite subjects, although the nice distinctions between the Greek moods and tenses and the principles of conic sections, with their appeal to the highly trained mathematical

imagination, are their daily food. As a result, thousands of young men and young women, who have neither the time, the money, nor the desire for a university career, are sent forth from the schools either in profound ignorance of the economic basis of modern society, or with only the most superficial and misleading knowledge of it. The indefensibleness of this policy, even from the most practical point of view, is apparent when we bear in mind that in this country we are in the habit of submitting questions, primarily economic in character, every two or four years to the judgment and votes of what is substantially an untutored mob. If practical politics only dealt with chemistry as well as with economics, we could, by the same short and easy method, come to some definite and authoritative conclusion concerning the atomic theory and learn the real facts regarding helium. But since the economic facts, and not the chemical or linguistic facts, are the ones to be bound up most closely with our public and private life, they should, on that very account, be strongly represented in every curriculum. We can leave questions as to the undulatory theory of light and Grimm's and Verner's laws to the specialists; but we may not do the same thing with questions as to production and exchange, as to monetary policy and taxation. Therefore the course of study is not liberal, in this century, that does not recognize these facts and emphasize economics as it deserves. I cite but this one instance of conflict between the inherited and the scientifically constructed course of study. The argument and its illustration might be much extended.

I have now indicated how I should answer my own question, and have briefly pointed out typical grounds on which that answer rests. It remains to add a few words regarding the attitude of college faculties and schoolmasters toward the scientific study of education. The recklessness with which the man of letters, sometimes the college president, and now and then even the more canny college professor, will rush into the public discussion of matters of education concerning which he has no knowledge whatever and to which he has never given a half hour's connected thought, is positively appalling.

Opinion serves for information, and prejudice usurps the place of principle. The popular journals and the printed proceedings of educational associations teem with perfectly preposterous contributions bearing the signatures of worthy and distinguished men, who would not dream of writing dogmatically upon a physical, a biological, or a linguistic problem. For some recondite reason they face the equally difficult and unfamiliar problems of education without a tremor. The effect is bad enough on the colleges and schools themselves, but it is far worse on the public generally, who are thus led off to the worship of false gods. Even in the largest American institutions, where most is at stake, the men who give any conscientious and prolonged study to education itself, as distinct from the department of knowledge in which their direct work lies, can be counted upon the fingers of one hand. As a consequence, many college faculties are no better qualified to decree courses of study and conditions of admission than they are to adopt a system of ventilation or of electric lighting. In time, doubtless, this will be recognized, and in the former case, as in the latter, the faculties will submit to be guided by specialists who do know. That will never come to pass, however, until school and college teachers see clearly that scholarship is one thing and teaching skill quite another; that long service in a school or college is quite as compatible with ignorance of education, scientifically considered, as long residence in a dwelling is compatible with ignorance of architecture and carpentry. When that light breaks, there will be very little discussion as to whether or not there is a new education, and many now familiar voices will be hushed.

Dr. Johnson's acumen was equal to drawing a distinction between the new as the hitherto non-existent, the new as the comparatively recent, and the new as the hitherto unfamiliar. In each and all of these senses of the word, I am confident that there is a new education.

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VI

DISCUSSIONS

MR. LUKENS ON THE CORRELATION OF STUDIES

I should like to offer a word of comment upon the excellent paper by Mr. Lukens which appeared in the November issue of the REVIEW.[1] I feel that I must enter a disclaimer to the conception of correlation which he assigns to me in that article. It is the idea of correlation founded upon or growing out of the *interrelation of subjects.* In a scheme based upon such a conception, the different subjects would have to be recognized as being *mutually* valuable and important. In constructing a course of study, the work of the educator would be to sift out from the various subjects all those parts which match and then treat them, when put together, as so much unified knowledge. The unifying thought, depended upon thus to tie the parts into a whole, would vary according to the judgment of the individuals who propose the plan or who do the sifting. Such an arrangement might be called *illustrative* correlation, but it cannot be fundamental and all-embracing in its character. It is the most common kind of correlation; but it differs just as widely from my conception of true organic correlation as rhyming does from poetry. As an illustration: In nature-study, the pupils are studying autumn leaves. In literature, the teacher makes a selection of, say, "The anxious leaf," by Beecher, as a reading lesson, which fills this beautiful change with a personality, and the correlation of the two subjects is regarded as somewhat complete. The intimacy and strength of the correlation is made to depend upon what there is in one subject which can be used to suggest the other. Where this conception of correlation prevails the only question that seems to need settlement is as to which shall take the initiative in suggesting—not a difficult problem at all, if decided upon psychological grounds. That there is much beauty and usefulness in this mutual enhancement of subject-matter, there can be no doubt In the early grades, especially, the interest of the child is vastly

[1] X: 364.

increased thereby. The inherent weakness in the conception, however, lies in the fact that after the utmost has been accomplished by this plan of correlation, there will always remain a great amount of material in all the subjects that can never be arranged, correlatively, according to this idea; and yet it would be absurd to suppose that such outside matter is noneducative. This is made strikingly apparent by the rapid advancement of modern science. Much of the subject-matter dealt with in science can find absolutely no direct enhancement in literature, either because it was totally unknown to the authors of that literature, or because they had not, in their day, accepted the facts as truth. This idea, therefore, practically excludes the best there is in science from correlation with much that is the best in literature, and it is evident that such a relation must always exist between these two important subjects.

My conception of the organizing center or thought in correlation is not the *fortuitous suggestiveness* of the subjects, but it is the present needs of the developing child; the life of the child, therefore, becomes the controlling center. If this seems indefinite, it is simply because the teacher's knowledge of what the developing child actually needs is indefinite, and it does not constitute a valid objection. The plan may be illustrated thus: Tardiness, for example, is a common school offense, everywhere present. It is usually treated as a from day-to-day matter, and is kept in subjection by bribes or threats which are absolutely unrelated to the means that the teacher is using in teaching anything else. The fact is, tardiness is no such trivial matter; it is the infraction of a great natural law, the persistent and general violation of which would disintegrate society itself. Does this proposition find any support in history? Does it find any backing in science? If so, then here is a splendid opportunity for the teacher to make the lessons of history and the lessons of science mean something. Do they mean the same thing? If so, then the correlation of these two subjects becomes organic, and they exert a joint fundamental influence in the life of the pupil upon the moral point involved. Tardiness is but a single example. Every act of the pupil is performed under law, and the subject-matter used in schools has no function except to make the pupil intelligent under that law. Through this conception, there is a constant, direct, and normal demand for the latest and best that science has to offer, and teachers will not feel that they have to search

through all literature for some catchword to suggest it, before they dare use it, for fear they may violate some canon of correlation. School histories will have to be rewritten; but when the great moral influences of history are massed together and are brought to bear like a trip hammer upon the daily experience of the pupil, then will its real potency in shaping destiny become apparent. The study of nature must be from precisely the same motive, and consequently there can be nothing but correlation. Every mood of nature points to a law, universal, inexorable, and she offers absolutely no hope to the individual who fails, through ignorance, or otherwise, to make his daily acts subservient to its operation.

In a word: all studies must focus directly upon moral development, that is, upon character-formation. The fundamental relation to be recognized in correlation is that which exists between the subjects *through* the child, not merely the *interrelation* independent of the child. If the *direct relations* of the various parts of subject-matter to the present and immediate needs of the child be clearly determined through a careful study of his activities, the interrelations of such parts will largely take care of themselves. Conflict will be hardly possible.

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ARITHMETIC WITHOUT QUANTITY

In the October number of the EDUCATIONAL REVIEW[1] Superintendent Burk of Santa Rosa criticises the views of Dr. Harris on number and number-teaching, as set forth in the Report of the Committee of Fifteen. This whole criticism is vitiated by a misconception of certain primary principles in the psychology of number.

The difference between Dr. Harris and his critic—and the difference is fundamental—stated briefly, yet correctly, is this: Dr. Harris would have an arithmetic based on number and quantity, and a method of teaching based on the psychology of number and quantity: his critic would have an arithmetic without number and quantity, and a method of teaching which completely ignores their psychology. That the critic believes it possible to construct an arithmetic without number

[1] X: 282.

is seen clearly enough from the following quotations from his criticism:

"Arithmetic, as the term is used to designate a certain class of instruction in the elementary schools, has indeed very little to do with quantity."

"The Report, in basing arithmetic instruction upon a foundation of number and quantity, certainly makes a very grave assumption."

"Are there not grounds for question if quantity has any place in the elementary school whatever?"

"Quantity is a matter which holds an infinitesimal place in the exercise which we call arithmetic in the actual school."

This belief in an arithmetic without number and quantity forms the ground of the attack upon the position taken by Dr. Harris in the Report, namely, that number and quantity are the content of arithmetic, and that the clear apprehension of this is an essential factor in a rational method of teaching.

From this it is clear that Dr. Harris and his critic are as wide as the poles asunder. The latter believes in a qualitative arithmetic, an arithmetic of observed objects, and in the improvement of present methods by greater attention to "quality and language." Dr. Harris believes in an arithmetic of number as the measurement of quantity, and in the improvement of present methods by greater attention to the quantitative idea—to measured quantity rather than to observed quality. Mr. Burk's logic as well as his psychology is at fault, for he asserts that there is no essential difference between Dr. Harris's theory and the present methods.

Superintendent Burk seems to have a horror of the definitions and conceptions of the "closet mathematician" and sees a broad distinction, not to say a direct antagonism, between the "scholarly and rational" ideas of a subject and the pedagogical ideas; that is, the ideas through which the subject may be made an effective instrument of education. He is constantly placing in opposition the *what and how* an adult mind thinks and the *what and how* a child mind thinks. But are we to have a pedagogy grounded on the hazy ideas of the mere workshop empiricist, or upon the "scholarly and rational" conceptions of the "specialized brain"? The peril to pedagogy is not in the scientific conceptions of the "closet philosopher," but in the incoherent conceptions and machine-like practice of the workshop empiric.

Nor is there any ground for the assumption now so fre-

quently made, that the action of the child mind is totally different from the action of the adult mind. The child is, by his very constitution, a thinker. He is not a mere passive recipient of sensations. There is indeed a hunger of the senses; but there is a deeper hunger of a something that uses the senses; a hunger for the knowledge which is built up out of sense-materials, and for the activity through which this knowledge comes. "Who can tell what a baby thinks?" No, indeed, we cannot tell, very accurately, *what* a baby thinks; but we can tell with no small degree of certainty *how* a baby thinks. There is continuity in mental life; the law of evolution holds in the growth of concepts. The greatest mathematician's conception of number—clear, definite, and all-embracing as it is—had its beginning in the simple acts of the child in counting and measuring familiar quantities. If the opposite doctrine were true, all our child-study would be in vain; we have no organ of interpretation—if even of observation—for the facts of child-life, and we shall have to wait till some child-philosopher produces a philosophy of childhood, and deduces a pedagogy applicable to pupils of "from five to fourteen years in the elementary schools."

Superintendent Burk's entire paper is weakened by his fundamental error in assuming that the thought-processes of the child are essentially different from the thought-processes of the adult. The author of the Report, he says, is dealing with the arithmetic of his own brain, "rather than with the mathematical conceptions of children," and he proceeds with his criticism as follows:

> "To count," says the Report [*i. e.*, to determine the *how many* that defines the *how much*], "one drops the qualitative, and considers only the quantitative aspect." This definition, says the critic, is made the corner-stone of the treatment of the subject, and with naïve simplicity the author proceeds, his definition being admitted as a foundation, to show how the child builds from it mathematical conceptions. This definition is not to be questioned as the definition of a certain mental state in the developed brain of an adult and educated mathematician. But it cannot be intelligently admitted that such a definition at all defines the process in the brain of a child from five to fourteen years of age. It is the result of years of mathematical training. The Report at once has placed itself without the sphere of childhood, with which it is supposed to deal.

At the risk of being classed with the *un*-intelligent, I say that in this definition I recognize the fundamental principles

in the psychology of number; and in the "naïvely simple" procedure which the critic speaks of I recognize the spontaneous movement of a philosophic mind, which, having firmly grasped a fundamental truth, proceeds with freedom through all its correlations. "This definition," says the critic, "is the result of years of training." Suppose it is; what has the child to do with the definition? It describes a process of the adult mind; with equal truth, it describes a process of the child mind. What then? Is the child expected to be conscious of his mental processes, and even to give definitions of them? I am sure that very few adults can give a "definition" of the mental process by which a vague whole of quantity is made definite. But the process is there, and can be described by those who have made a like process in their own minds an object of conscious attention.

So this process, the process of "dropping the qualitative and considering only the quantitative," is the process of the child's mind in counting; that is, it is the process when the child's mind is allowed to act normally. The normal action is, of course, thwarted by the irrational arithmetic of quality, and the servile worshipers of qualitative unities. For when the child, in counting and measuring, is forced, by the workshop routinist, to dwell upon the "qualitative aspects"; to exercise his growing power of discrimination and relation upon the qualities of things, carefully noting perceived objects, and all the qualities that make them what they are, the mental movement of numerical abstraction and generalization, which alone results in numerical ideas, is either impeded, or absolutely arrested. But let the child be interested in finding the *how much* of some *quantity;* then, in his operation of counting and measuring, he will inevitably "drop the qualitative and consider only the quantitative aspect." Every parent has seen the little one counting the groups of familiar things about him; has seen and rejoiced in it as indicating a higher energy struggling for expression. Coming to our own experiences, all of us will doubtless remember how we counted out our playthings according to this "*a priori* law of thought"; abstracting and generalizing, dropping the qualitative and attending to the quantitative. We did not know indeed that we were working under an "*a priori* law of thought." We only knew that when our playmates challenged us to a comparison of treasures, of playthings, namely, we emptied our capacious

pockets of all that they contained—common marbles, china alleys, glass alleys, jewsharps, knives, tops, whistles, pea-shooters, and so on—motley quantities they were; but they were *quantities;* quantities needing measurement to decide the question as to who was the richer or richest boy. Was ours then an arithmetic of the qualitative or of the quantitative sort? To get at the *how much,* did we note the objects and all about the objects? Did we compare the common marbles with the "alleys," or dissociate tops from catapults, and whistles from jewsharps, because of differences of size or shape or color; in a word, did we carefully attend to the endless diversity of qualities in the individual things? Our acts were with the theory of Dr. Harris, and against the hypothesis of Superintendent Burk; we obeyed an "*a priori* law"; we dropped the qualitative aspect, and considered only the quantitative. We saw in an instant that top, and marble, and whistle, and knife, whatever their qualitative differences, were alike in this—they were *playthings*—and therefore each contributed its part in making up the "how many" which defined the "how much," the end or purpose we had in view.

Take another instance of the critic's argument from his erroneous premises that arithmetic has nothing to do with quantity and that a child cannot think. Dr. Harris says in the Report: "In thinking five-sixths the child first thinks five and then six, and holding these two in mind thinks the result of the first as modified by the second." Upon this Superintendent Burk remarks: "In a developed brain this is a possible way . . . but if the thing be actually tried with a child, the result would be his apprehension of the figure five, the figure six underneath and a line between them; simply this, and nothing more. The child lives in a world of sense, and this is the way his immediate senses would present it."

From the critic's view of arithmetic and methods of teaching it, this inference is, no doubt, perfectly valid. From the handling of qualitative unities which measure no quantity, from an arithmetic which recognizes no number, from a method of teaching which uses no idea of measurement and presents nothing but sense-facts to a child forever confined to a "world of sense," there cannot arise a true idea of number which is not a sense-fact at all, but a purely mental product, a proof in fact that the child is emerging from the mere "world of sense" into that world of thought, of self-activity and self-control,

from which he reacts upon the sense-world and makes it subservient to his purposes. With no true idea of number in his mind, what are number-names and number-symbols to the child? They are not even "empty abstractions"; for these stand some chance of a future filling. They embody no idea, they symbolize no process of thought. When, therefore, five, or six, or five-sixths is presented to the child he attends to it as a mere sense-fact; it is to his "immediate senses" a certain qualitative thing—this, but nothing more.

But far different are the results under the psychological method which the Report recommends—arithmetic based on number and quantity, and a method based on the normal action of the mind in dealing with quantity, in making definite a vague whole, by means of quantitative units themselves quantitatively defined. In this psychological method, there is no beginning with pure abstractions of number and quantity. It is not forgotten that "the child lives in a world of sense," and so there is a proper presentation of sense-material to call into play the fundamental activity of *mind* which leads gradually but surely to clear ideas of number. But equally it is not forgotten that the child is not to be fettered and confined in a prison house of sense; that he and all the race "live" in a world of sense only by bringing it into subjection, and that the art of measuring, that is the arithmetic of number and quantity, is the instrument through which this subjection is achieved.

This psychological method recommended by the Report is a method which stimulates, guides, and strengthens the normal action of the mind, and in good time gives the child the power "to think five-sixths," and to think it as the Report says he thinks it, as denoting exactly measured quantity; a conception full of meaning, and not a barren and useless sense-fact—"five over six with a line between them"—the sole product of the inane method which the critic advocates. The method of the Report is based on the fact that *number* and numerical processes are the product of the primary mental functions (analysis, synthesis) working not upon quality, but upon quantity. When the method is rationally carried out, every step in primary number work is toward the right idea of number as denoting measured quantity, and therefore toward a clear conception of the fraction-number as denoting *definitely measured* quantity. For the number-process in the mind is, from

first to last, a "fraction" process; it is a working with a unity of parts, and parts constituting a whole, a unity. When, for example, a child counts his six apples by twos, he notes a first two, a second two, a third two—*three* twos, the unity or whole; can he help feeling that one of these parts is one out of the three, and two, two out of the three? When he is interested in getting a definite idea of a six-unit quantity, say a length of six feet, what is the mental movement? By means of a foot measure, he separates the quantity into parts (analysis), and now has a whole of parts; he then counts the parts (rational synthesis), and now has a number of units making up the exactly defined unity or whole. The vague *how much* has become the definite *so much.*

Now, in this process, he begins with a whole of quantity and is continuously working from and within this whole. There is therefore, in counting, a sort of double movement in the mind—a looking forward and a looking backward. When the child reaches, *e. g.*, the fourth unit in the series measuring the whole, he is aware of the three preceding units and of the others yet to come. He recognizes the six equal parts of a unified whole, and when he counts the series he cannot help seeing that one unit is one out of six, two are two out of six . . . and five, five out of six. What is this but the beginning of a *true* conception of "five-sixths"; a "thinking of five and a thinking of six, and then of the five as related to the six"? At first indeed there is, as in every form of mental growth, a mere feeling, a vague awareness of the "five as modified by the six," but at last and surely a conscious recognition of the relation.

Such results are clearly impossible in an arithmetic of quality and fixed qualitative units, because this is a continual thwarting of the fundamental psychical activity which alone can produce them.

It may now be reasonably expected that Superintendent Burk, having argued for an arithmetic without quantity, will plead for a geometry without space.

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FALL MEETING OF THE MICHIGAN SCHOOLMASTERS' CLUB

The twenty-fifth meeting of the Michigan Schoolmasters' Club was held in the Recital Hall of the University School of Music, at Ann Arbor, on Friday and Saturday, November 29 and 30. The programme included general sessions of the club, Friday morning, Friday evening, and Saturday morning and afternoon, with departmental conferences for English, mathematics, and physics, Friday afternoon. There were comparatively few present at the opening, as was to be expected of a session immediately following Thanksgiving Day; but the total attendance at the conferences was more than two hundred, and the sessions of Saturday drew a still larger number. Of States beyond Michigan, Illinois was, as usual, represented by a strong delegation. On Friday there was also a special meeting of the North Central Association of Colleges and Schools, which brought to the later sessions of the club a larger number of educational men from more remote States than had ever been present before.

The club first listened to supplementary reports of two committees, which had given full reports of the classical conference in March.[1] Professor J. H. Drake, chairman of the committee on illustrative material for classical teaching, called attention to a reduction in the price of von Launitz's *Wandtafeln*, and gave particulars regarding importation. He presented also a prospectus of a comprehensive and most promising series of reproductions of objects of ancient art and life, projected by Professor A. C. Frothingham, Jr., of Princeton University; he recommended the proposed albums as far superior for educational purposes to ordinary photographs, and to all the collections of illustrations now available. Mr. C. L. Meader, chairman of the committee on the High-school Classical Library, reported that in June an edition of 3000 copies of the "list of books recommended for a High-school Classical Library" had been published, of which less than 450 copies were still on hand; and that, in response to a pronounced demand, inasmuch as the edition was so nearly exhausted, the committee now proposed to select from the 480 titles originally given a list of the hundred classical books recommended as most necessary for a school library. Announcement was made that this smaller list would be published in the *School Review*.

[1] See the *School Review* for June, 1895, pp. 386–96.

The deliberations of the conferences were marked by deep interest. The English conference listened to two papers, one by Miss Bancroft of Albion College, on "English literature as an aid to composition" the other by Miss Clarke of the Kalamazoo High School, on "Methods of teaching English literature." In the discussion that followed Professor Lemmon of the University of Michigan and Superintendent Nightingale of Chicago took strong ground against the excessive linguistic analysis of literary masterpieces, to the exclusion of higher interpretation and the appreciative study of them as literature. Professor Hinsdale emphasized the importance of the training which may be acquired by reproducing the ideas of an author in one's own language. The mathematical conference gave its attention to topics connected with the teaching of algebra—the amount that should be taught in secondary schools, the order of subjects, and factoring. The conference in physics was made especially interesting by the exhibition of new apparatus. One piece of apparatus, offered by Mr. H. M. Randall of the Saginaw High School, was pronounced superior to anything of the kind previously known; it is a very simple but accurate device for verifying the laws of falling bodies.

At the evening session of Friday the club listened to a paper by President Thwing of the Western Reserve University on "The best life," read by President Angell. Professor C. H. Thurber then spoke on "Essentials and non-essentials from a pedagogical standpoint." His remarks were in substance as follows:

What a pedagogical standpoint means is not any too clearly defined. Education can be advanced in two general lines: One is that of organization, which has to deal with the external relations of education; and the other the psycho-biological, which has to deal with the internal phenomena. With regard to both these standpoints, and not forgetting the great variety of educational freaks which masquerade in the garb of pedagogy, there are three essentials on which all, perhaps, can substantially agree.

First. The teacher should thoroughly understand the scope and function of the school in which he is placed, and its relation to the other parts of the educational system. He should know enough of the organization of schools to understand exactly the function in the educational economy discharged by the particular school with which he is working.

Second. He should know enough of the processes of the mind on its way to knowledge, so that he can thoroughly put himself in the student's place. Without some study of educational psychology, the teacher is the victim of imperfect recollections of his own experiences. A study of the steps

through which the mind gains knowledge enables him always to keep in sympathy with the pupil in the difficulties the latter encounters. He is thus enabled to adapt his instruction to the capacity of the instructed.

Third. He should have a clear ideal. He should have a conception of the final product of the school, and a clear notion of the particular contribution toward that product to be made by him in his own instruction. As a teacher of Latin, he should know for what results Latin is taught. In any factory, before the raw material is touched, the workmen know exactly what the final product is to be; but in dealing with raw material that consists of delicate, sensitive, little souls, it is too often thought sufficient to rely upon the cut-and-dried process, with results disastrous in both their immediate and their remote influences.

The subject for Saturday morning was, "The preparation of teachers for the secondary schools." President Slocum of Kalamazoo College laid emphasis upon the personal character of the teacher, and paid a fitting tribute to the shaping influence of President Martin B. Anderson of the University of Rochester upon the generations of students that came under his instruction. Principal Boone of the Michigan State Normal School grouped the requirements of teachers for secondary schools under four heads: 1. The largest scholarship available under the conditions of the system; 2. An acquaintance with the high school, from the point of view of the teacher, and as an organic part of the school system; and some acquaintance, at least, with the elementary schools; 3. The fullest and clearest professional knowledge and practice (skill) belonging to that grade of teaching; 4. The professional teaching spirit. Professor Hinsdale urged the importance of sound pedagogical method, not as taking the place of the largest possible scholarship, but as making this available and effective; he deplored the evil effects of excessive specialization on the part of those who teach very young students.

Superintendent Nightingale discussed the preparation of teachers from the point of view of the high school. He dwelt at some length upon the striking disparity in the number of men and of women filling high school positions, presenting strong arguments in favor of an equality in this regard, and the payment of the same salary for the same work, when equally well done; the employment of half-qualified women teachers, because they were cheap, has lowered the standard of professional qualifications for secondary teaching. Passing to the other phase of his subject, he took high ground for the scholarly equipment of secondary teachers, and said:

I desire to make a plea for broad culture, symmetrical training, an all-around education in language, mathematics, science, and history, and for a persistent and never-ceasing study of English classics and English literature. The education of a teacher should be first general, then special. The very minimum of preparation should be a college education—an education general in character, removed at least four years from high-school training; and where circumstances may permit, I would add one year of resident graduate work along specific lines, and two years of study and travel abroad. This education, however, to the real student, to the scholarly scholar, will be but a beginning of those intellectual possessions which shall be easily and delightfully acquired as the years unfold, but one who, having secured the meager discipline of a high school, attempts to acquire the knowledge and power sufficient for a secondary teacher, through university extension circles, Chautauqua courses, summer schools, normal schools, and private study, will ignominiously fail to secure that kind of scholarship which the needs of our secondary schools demand. The real teacher will always be a student. Intellectual acquirements, however, are not the only essential elements of a teacher's equipment. To be a guide, a trainer, a safe counselor of youth, one must be a paragon of patience, kindness, love. The dull, the indolent, and the mischievous must always receive due consideration. Personal appearance also bears no insignificant relation to a well-appointed teacher. Tidiness of person, neatness of dress, grace of posture, and civility of manner should mark the true teacher, and among other acquirements, the real teacher needs a gentle, well-trained, cultivated, mellow, musical voice. The reading of the English classics in our high schools is something abominable, and calls for radical reforms.

The speaker abjured intensive specialization until broad foundations have been laid, and a good general education secured, with language as the center around which all studies correlate.

Superintendent Nightingale was followed by Director George N. Carman of the Lewis Institute, Chicago, who spoke of the important place that experience, particularly experience under careful and sympathetic criticism, should have in the preparation of a teacher. The discussion was brought to an end with remarks by Professor Carhart of the University of Michigan. He gave voice to the conviction, which has been gaining rapidly at the university during the past few years, that no one can be considered as having adequate professional equipment for secondary teaching who has not had at least a year of graduate work, with undergraduate training as a foundation, in the subjects which he purposes to teach.

Saturday afternoon was devoted to the question of the relation between the university and the secondary schools. Professor A. H. Pattengell of the University of Michigan pointed

out certain defects in the system of admission to the university by diploma, or certificate, mainly due to the fact that too many schools had sought and gained the privilege of recommendation. The number of diploma schools on the accredited list of the University of Michigan is now 152; it is impossible to inspect so large a number, under present arrangements, without taking altogether too much of the time of members of the faculty. Further, so few students, relatively, now enter on examination that the examination system tends to be kept up with less strictness and care than formerly. The speaker was inclined to recommend either the appointment of two special inspectors, who, under direction of the faculty, should do nothing else but visit schools, or the preparation of examination papers at the university which should be sent out to the schools.

Principal French of the Hyde Park High School, Chicago, made an earnest plea for the maintenance of an intimate relation between school and college. His argument may be traced in the following outline:

Any system of college requirements should be so planned and administered as to accomplish two things:

1. The acquisition of a body of well-prepared students; 2. The acquisition of the power to exert a vigorous influence upon the life of the lower schools which shall exalt their ideals and motives, render their work more efficient, and at the same time foster the college spirit.

It is desirable that as large a number of our young men and women as possible should take advantage of the opportunities which the college affords. In order to accomplish this, the colleges and universities must impress themselves profoundly upon the lower schools. The young people must be made to know not only that there are higher institutions than the common schools, but also that these institutions are in sympathy with them in their aspirations after a broader and deeper intellectual life, and that they are ready and anxious to help them.

The certificate system offers peculiar advantages to this end:

1. It tends to unite the college and secondary school in a more or less harmonious relationship; 2. It tends to increase the number of those who enter college; 3. It places the emphasis more upon the daily work of the pupils, and less upon a comparatively isolated function of school life; 4. It largely eliminates the evil of cramming; 5. It affords the colleges a better opportunity to keep a check upon the lower schools; 6. It gives the lower schools a better opportunity to keep in touch with the colleges.

The certificate system may lead to certain evils:

1. It may have a tendency to lead both the colleges and secondary schools to sacrifice scholarship to the pride of numbers; 2. Principals may succumb to pressure and issue certificates to unworthy students; 3. Poor work in a single branch or department may cause a school to be unjustly condemned.

The ideal system of inspection is to have some progressive and sympathetic professor visit the high school as inspected, making teachers and students alike feel that he comes as a friend as well as a critic. Reports should be sent back to the schools, regarding the work of their students, at least for the first year. Probably two kinds of certificates might advantageously be used, one absolute, for the very best, the other conditional.

Principal Greeson of the Grand Rapids High School spoke with much force of the uplifting influence of the certificate system upon the secondary schools. Finally President Angell, being called upon, closed the discussion with some remarks regarding the purpose and development of the diploma system, which are given in full:

The discussion has been devoted largely to the details of our diploma system. Before we adjourn, I should like to call attention briefly to the history of the introduction of that system which has been so widely imitated in the West, and sometimes without the safeguards we have thrown around it here. It was suggested by the German system of receiving students into the universities from the gymnasia.

The university professors who were interested in the subject observed that while there was an organic connection between the primary school, the grammar school, and the high school, there was no such connection between the high school and the university. They thought that the German system might, with certain modifications, be employed to close that gap. Doubtless they hoped, by introducing it, to benefit the university, and the results have fully justified their expectation. But what I wish particularly to emphasize is, that the broad-minded men then in the university faculty wished above all to confer a blessing on the state by securing unity and completeness in its educational work and life. They aimed to make clear and open the path for every child in the State to advance, with the fewest possible obstacles, from the lowest school up to and through the university, and to kindle in all the high schools a desire for the higher education.

In those early years I used to visit the schools frequently as one of the committee of inspection. I remember that the visit of the committee was made a marked educational occasion. Often we were invited to make addresses to the citizens. The most prominent men and women of the city were invited to meet us. We found opportunities to talk with the pupils about college studies and life. In many a student—probably in some of you here present to-day, then boys or girls in school—was first born, on some such occasion, the illuminating and inspiring thought that perhaps a college education was within their reach. All over the State a new enthusiasm in high-school work was awakened. The tax-payers were filled with new pride in their schools and moved to a more generous support of them. No one who can remember the development of education in Michigan for twenty-five years can doubt that the establishment of this new relation

between the university and the high schools was epoch-making. I have spoken these few words because I wished that our younger friends, who are not familiar with what occurred so long ago, may have some proper conception of the great ideas which inspired this movement.

It has grown upon our hands until there are undeniably some difficulties in working the system in our relation to so many schools. But these are difficulties which chiefly concern the university, and it is for the university to find the remedy as best it can. You can be sure that the subject is not overlooked by us.

As to one remedy suggested to-day, that an officer should be appointed to give his whole time to conducting the examination of schools, and to do the whole of that work, I wish to say that there is one serious objection to that plan. It would deprive our professors of the benefit they receive from inspecting the schools. College teachers, in their zeal for raising the standard of work in their respective departments, are in danger of forgetting the obstacles teachers encounter in lifting the grade of work in the schools. But by actually going into the schools, by conferring with the teachers and the school board, they learn what is possible, and what is impossible. So the university is saved from the mistake of making unreasonable demands on the schools.

The accomplished principal of the Harvard School of Chicago has spoken of the danger of the principals giving certificates to scholars who do not deserve them, for fear of giving offense to some of the influential parents. I confess I used to have that apprehension. But I am glad to bear testimony to the fact that, in all these years, I have seen few, if any, such cases. I am glad to express my gratitude to these principals and superintendents for the pluck they have shown. I am sure they have sometimes refused certificates to pupils who, if they had come to be examined, would have secured admission.

There are other points which I would willingly discuss, did time permit. But I rose merely to indicate what were the noble and lofty purposes which led the university authorities, in 1870, to introduce the diploma system. So long as you teachers of the high schools testify, as you have done to-day, that you and your pupils are helped, as we hoped you would be; so long, I believe, the university will continue the system in the most efficient manner possible to it with the means at its command.

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VII

REVIEWS

Statistics and sociology—By RICHMOND MAYO-SMITH, Ph. D., Professor of Political Economy and Social Science in Columbia College. New York and London: Columbia University Press [Macmillan & Co]., 1895. 399 p. $3.00.

The subject of statistics is rapidly gaining recognition in American colleges. In Great Britain, from which, until recently, our educational models have been mainly derived, it has received scant attention at the hands of the universities. As statistics, in the modern sense of the term, originated in that island over two centuries ago, and under its original name of political arithmetic obtained there a considerable development, one is somewhat surprised that the land of its birth and baptism has granted it so little direct academic recognition. It was not until early in the present century that it began to gain an entrance to the universities—not, however, to those of Great Britain but to those of the continent of Europe and especially to the German universities; where, after a prolonged and bitter controversy, it gradually displaced the earlier statistics of the school of Achenwall, which was in substance a descriptive political science, and even usurped its name. The discipline, thus, in which courses of instruction have been steadily increasing in number and extending in scope in the leading universities of the United States during the last ten years, has entered them not from England, and not under its original name of political arithmetic, but from Germany, and as statistics.

The present work, while using the most important conclusions of the English statisticians, especially in the field of vital statistics, and while thoroughly independent in plan and treatment, shows the influence of German writers perhaps more strongly than those of any other nationality. At the same time it embodies the conclusions of a pioneer in the field, who has been lecturing on statistics for a dozen years at Columbia College, and who, by his teaching and influence, has contributed to arouse an enlightened interest in the subject. This work

will extend and deepen that interest among students of affairs; and by providing a text-book, which might be used for a class either with or without supplementary lectures, it should make the introduction of the subject into the curricula of other institutions possible. The only previous work in English suitable for such a purpose—*Statistics and economics*, by the same author—has been for some time out of print. This volume contains the only full statement in the English language of the general principles and conclusions of statistics, and it is a matter for congratulation that an American scholar should be the first to offer such a work to the public.

Statistics and sociology may be regarded as a fresh and full treatment of the field covered in outline in the first part (pp. 15–78) of *Statistics and economics* and there called "The statistics of population"; but in its chapters on crime and on suicide it extends into the field of moral statistics, which is thus merged, and wisely as it seems, in the general subject of population. We are promised (p. vii.) a second volume to be called *Statistics and economics*, which will presumably cover the remainder of the field surveyed in the earlier pamphlet.

Statistics is defined as "the observation of phenomena which can be counted or expressed in figures" (p. 9), and just before this statement we are told that "the science of statistics . . . gives us the quantitative measurement of social phenomena" (p. 8). If the word phenomena in the definition be limited to social phenomena, as is apparently warranted by the author's general use of the term, and by his slight reference to the application of statistics outside of the field of the social sciences, the definition is substantially identical with that of Professor Levasseur, "Statistics is the numerical study of social phenomena."

Professor Mayo-Smith waives the question whether statistics is a science or only a scientific method (p. 17), but in conformity with the opinion briefly set forth in his earlier work (p. 112–119) he commits himself to the view that it is a science, by calling the entire treatise of which this is the first part, *The science of statistics*.

Sociology is defined as the science which treats of social organization or of the laws which underlie the relations of men in society (p. 1). This definition of sociology, in common with most others, by repeating in the predicate the word

social or society apparently lays itself open to the objection that it is tautological.

Perhaps the most important general change of plan between the earlier and the later works is the abandonment of the distinction, made by many other authorities, and adopted in the earlier monograph, between social conditions at a determinate instant and social change in time. The distinction may be artificial and unreal, but it corresponds closely to the difference between the two main sources of information upon which social statistics must rely, viz., censuses and registration records; and in my own pedagogical experience in this field it has been found, on the whole, to justify itself. One would have been glad, therefore, for a statement of the reasons which have led a teacher of such experience to surrender this division. Is it not as justifiable and serviceable as the generally accepted division of geology into statical geology and dynamical geology?

The general aim of the work is apparently to present an orderly and reasoned survey of the social condition of the population of western Europe and the United States so far as that condition finds expression in facts which have been statistically measured. This limitation of the theme to the most important exponents of modern civilization is nowhere expressly stated, but it must be understood as an implicit qualification of several statements—*e. g.*, that an excess of females is typical of old countries (p. 40), that education can scarcely fail to be always an index of the social condition of a people (p. 209)—and is doubtless justified by the scanty and questionable statistical data obtainable concerning countries like India, Japan, and Egypt. The scope of the work in time is also limited to about the last score of years.

Within the field thus defined the subject is treated in three introductory chapters and in four books, each shorter than the last, entitled Demographic, Social, Ethnographic, and Environment. Demographic statistics include what are frequently called vital statistics or statistics of births, marriages, sickness, and deaths, along with an introductory consideration of census data upon sex, age, and conjugal condition. Social statistics treat mainly of the dependent, defective, and delinquent classes, while the book on ethnographic statistics is largely concerned with migrations, since race distinctions prove to be not sufficiently definite for the requirements of careful statis-

tical work. The environment is either physical, under which the density and the distribution of population are considered, or social. As the statistics of the United States are inferior in scope and accuracy to those of many European states, one is not surprised to find that no emphasis is laid upon the social conditions of this country, and that Massachusetts is the only State mentioned in the geographical index.

The foreign works with which one is tempted to compare *Statistics and sociology* are Dr. Mayr's *Die Gesetzmässigkeit im Gesellschaftsleben* (1877), Professor Levasseur's *La Population Française* (1889–92), and the earlier work of Wappaeus, *Allgemeine Bevölkerungsstatistik* (1859–61). It differs from the first and second and agrees with the third in three important respects; the absence of any extended preliminary discussion of statistical methods; the avoidance of emphasis on the statistics of one particular country, and the disregard of the distinction between *État* or *Stand* and *Mouvement* or *Bewegung*. It has a great advantage over the German works in presenting the conditions of the various countries as they were about 1890, while the facts, though not the reasoning, of the earlier writers have lost much of their interest with the lapse of years.

Suggestive reflections upon the divergent treatment of the same subject are aroused by the publication, within a year of each other, of two works bearing the same title, *Statistik und Gesellschaftslehre*, 1894, *Statistics and sociology*, 1895. They are by two of the best-known statisticians of the world; each is the first volume of an extended treatise on statistics; the latter work recognizes the former as "the latest and most complete treatise on statistics that we possess" (p. 17, note), and yet the topics discussed in the two are almost entirely different. Dr. Mayr reviews the fundamental ideas (*Grundlagen*) of the science, its methods and technique, the administration of statistical offices, and sketches the history of statistics, while Professor Mayo-Smith is mainly concerned with its results and a criticism of them. In following this method he has presented the public both a readable book—no common merit in the literature of statistics—and a trustworthy manual.

W. F. Willcox

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A practical German grammar—By CALVIN THOMAS, Professor of Germanic Languages and Literatures in the University of Michigan. New York: Henry Holt & Co., 1895. 411 p. $1.12.

There is and probably always will be in this country a large number of students who learn to read German in the college or in the upper classes of the preparatory schools, after they have studied other languages for some years, and know pretty well what it is to handle a reference grammar. Such students are concerned chiefly with the problem of finding out how the Germans say things which the students already know how to say in other languages. They know the terminology of the grammar, and the classification of expression-formulas which is the substance of grammar-study. They want simply a presentation of the facts of German grammar in such perspective as their relative importance for such students demands; the main rules, and the minor points that experience shows are most troublesome, in large type and clearly stated; the other minor points and lists of forms, both regular and exceptional, full and accurate, but unobtrusive. Such students are competent to use what facts they need and leave the rest; any attempt to prescribe the order or method of using the facts is out of place; with very little guidance from a competent teacher, they need no other grammar; abundant reading of texts and some little composition material from any of a dozen available books, or from the teacher's own note-book, soon bring them to the point where the German sentence is no longer a mystery, and they only need to add to their knowledge the facts of vocabulary and idiom as they meet them in reading.

The second part of Professor Thomas's grammar is the best thing thus far available for such students. It meets the above requirements as to contents and arrangement. The author has used very judiciously the work of his predecessors, and all his selections, as well as his own statements, make for clearness, which is the predominant merit of the book. Particular instances are the chapter on word-order, the rules for gender, the treatment of the modal auxiliaries, and the appendices (orthography and English-German cognates). While the book is a grammar of late modern literary German, the fact is never lost sight of that there have been other periods, and still are other dialects, which may often throw lights on the facts to be recorded, especially in the many cases of divided usage which

are found in German. Moreover, the book is up to date. The chapter on pronunciation is written with due regard to the existence of a modern science of phonetics; it is made clear that there are various and varying pronunciations current in Germany; it is recognized that the great majority of Germans pronounce *r* with the uvula, but that the average American, without special training of some muscles that he rarely uses in speaking, might as well try to pronounce it with his back hair. We are also left free to believe that the German script is rapidly becoming a matter of history, and given to understand that the formal third plural for the pronoun of address is used in speaking to all adults except *very* intimate friends. These are a few of the many points in which the book marks an advance. It is a pity that such a book as this grammar might be, will not sell so well as the book as it is. If the matter in Part I which is referred back to in Part II were incorporated in Part II in the proper places, the reference grammar would be more satisfactory, but then there would be no *raison d'être* for the rest of Part I, which will nevertheless probably sell more copies than Part II. The matter in Part I which belongs to a reference grammar shares the merits of Part II; the rest is simply another of the legion of books in which a teacher puts in print the details of the method which he uses, or thinks should be used, in the hope that others can use it in the same way he does. Every competent teacher has a shelf-full of such books, most of them distinctly more valuable for material than for method. The most of them are a mere list of the hobbies of their authors. The best of them can do no more for a really competent teacher than save him some trouble in providing material for his class. To follow any method or text-book slavishly is a sure sign of an incompetent teacher. Now the matter in Part I referred to is open to the very serious criticism that it can be so followed, and followed by those who ride the hobby which surely must be as much of a nightmare to Professor Thomas as to anyone—the "natural method." One could easily conclude from some things in the book that it is expected to do what Professor Thomas has said "cannot be done, never has been done, and never will be done, by the natural method or any other method, and anyone who professes to do it may safely be set down as a quack." One reviewer has already said that this matter is sufficient to allow the use of the grammar without

a reading-book! Any teacher who is competent to use a method such as seems indicated in Part I has that sort of stuff by the yard as a result of his own experience, and therefore better for his use than anything he can get ready-made from a book. Fortunately, however, the book is well indexed, and whoever wishes to ignore all but the reference grammar can do so without any great inconvenience.

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Vaile's Vertical-writing copy-books: Nos. 1–5, forming a school course. Philadelphia: E. H. Butler & Co., 1895. 96 cents a dozen.

As copy-books go, this is an excellent series. At first glance, the writing provided for copies strikes one as being ugly and is therefore disappointing; but a careful examiner soon discovers that the apparent ugliness is due to certain peculiarities, such as the omission of unnecessary initial and finishing strokes and a closer approximation in size between capitals and small letters than he has been accustomed to; both of which, since they diminish the difficulty of writing while they increase legibility, are really merits. Moreover, when he reaches a book in which the copies consist of solid blocks of matter instead of single lines, he looks for the ugliness that troubled him at the outset, and lo! it is not there.

The chief merits of the books are: (1) that they present a very clear and compact style of penmanship; (2) that they are well graded as regards both the sizes of the letters and the subject-matter of the copies; (3) that in the higher numbers the copies are instructive, so that the work done by the scholar is something more than mere writing; (4) that the books are so shaped, measuring but six inches from top to bottom, that as the writing progresses toward the foot of the page the book may be pushed further up on the desk; (5) that the lines to be written are short, never reaching five inches, so that lateral movement of the book, to prevent straining of the eyes, is unnecessary.

Against the merits must be placed a few defects. One of these is the use for copies in the lower books of single letters and of meaningless combinations of letters. Another is a lack of sufficient practice in the same books, upon the arabic

figures. A third is a want of sufficient contrast in some places between the solid lines provided for the writing and the dotted ones between. The letters *x* and *z*, in both the large and the small form, are decidedly inferior to the other letters, and the engraving generally is not up to the best standards in smoothness and accuracy. The last fact is defended by the author in his suggestions; but it seems to us that his defense is not valid. For, whatever standard we set before children, they are sure to fall below it, and it is therefore of great importance that the copies, while demanding nothing impracticable, should be as nearly perfect as possible.

The little treatise on Vertical Writing which accompanies the books, and is uniform with them in size and appearance, is remarkably clear in statement, temperate in tone, and fair in argument. It ought to be read by every teacher who desires light on the subject with which it deals.

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NOTES ON NEW BOOKS

Mention of books in this place does not preclude extended critical notice hereafter

One of the very best manuals of physical science is Daniell's *Text-book of the principles of physics*, which now appears in a third edition, testifying to its popularity and usefulness (New York: Macmillan & Co., 1895. 782 p. $4.00).——A small but complete and well-classified *Introduction to the study of zoology* is that by B. Lindsay of Girton College, Cambridge (New York: Macmillan & Co., 1895. 353 p. $1.60).——In the excellent *Century science series*, edited by Sir Henry Roscoe, the two latest volumes are on Liebig and the Herschels. Both are well and clearly written. Other volumes on Faraday, Clerk Maxwell, Lyell, Pasteur, Darwin, and Helmholtz are promised (New York: Macmillan & Co., 1895. $1.25 each).——The appearance of the plays of *Hamlet* and *King Henry VIII* in the beautiful Temple Shakespeare affords another opportunity of calling attention to that attractive edition (New York: Macmillan & Co., 1895. 45 cents each).——*Latin literature* is the title of a capital survey of the literature of the Romans, from Nævius and Ennius to

Claudian. The author is J. W. Mackail, sometime Fellow of Balliol College, Oxford (New York: Charles Scribner's Sons, 1895. 286 p. $1.25).——An elaborate criticism of Tennyson, Browning, and Matthew Arnold, and a comparison of their merits, are offered by Professor Hugh Walker of St. David's College, Lampeter, in his work entitled *The greater Victorian poets.* The book was printed at the Aberdeen University Press, and is not well made (New York: Macmillan & Co., 1895. 332 p. $2.50).——A readable sketch of modern German literature is that by Benjamin W. Wells (Boston: Roberts Brothers, 1895. 406 p. $1.50).——Beautiful specimens of book-making and the best of educational material are found combined in Baldwin's *Specimens of prose description* and Brewster's *Specimens of narration.* Both are products and instruments of the new study of rhetoric and composition that is so rapidly spreading through the schools and colleges (New York: Henry Holt & Co., 1895. 50 cents each).——Other reading matter of a high order of excellence, very attractively presented, but intended for much younger pupils, is contained in the three latest volumes of Eclectic School Readings—Edward Eggleston's *Stories of great Americans,* Baldwin's *Fairy stories and fables,* and the same writer's *Old Greek stories* (New York: American Book Co., 1895. 50 cents each).——No more beautifully made and generally attractive text-book has recently appeared than Gleason and Atherton's *First Greek book,* with an introduction by William C. Collar (New York: American Book Co., 1895. 285 p. $1.00).——The second volume of *Darwin and after Darwin,* by the lamented Romanes, has just been issued. It deals chiefly with questions of heredity (Chicago: Open Court Publishing Co., 1895. 344 p. $1.50).——In his *Advanced history of England* Professor Cyril Ransome has made a book of an extremely useful type. General readers will find it admirable for consultation and reference, while teachers and advanced students can use it as a text-book (New York: Macmillan & Co., 1895. 1069 p. $2.25).——The third issue in the Columbia University Biological Series is Dr. Dean's carefully worked out book on *Fishes, living and fossil.* It is beautifully illustrated (New York: Macmillan & Co., 1895. 300 p. $2.50).

VIII

EDITORIAL

The ninth annual meeting of the important body of secondary-school and college teachers known as the Association of Colleges and Preparatory Schools of the Middle States and Maryland, was held at Lafayette College, Easton, Pa., on November 29 and 30. The attendance was very large, although not as thoroughly representative as it should have been. Many of the New York colleges and academies were not represented at all. Cornell sent but a single professor; Princeton and Johns Hopkins sent none. Pennsylvania, on the other hand, and particularly Philadelphia, sent very large delegations. It is a proof of the new educational life that is stirring in the Quaker City that the Philadelphia Girls' High and Normal Schools alone sent sixty teachers to the meeting.

The programme wisely confined each of the three sessions to a single topic, and most of the papers were of an unusual order of excellence. The *Sprachmeister* and their opponents debated the aim and method of college work in French and German, and President De Garmo and Dr. Frank M. McMurry expounded the significance of the principles and spirit of Herbartianism for secondary and higher education. Professor Witmer of the University of Pennsylvania made a fierce onslaught on Herbart's psychology, and called out the sharpest and most helpful debate of the meeting. The chief participants, besides President De Garmo, Dr. McMurry, and Professor Witmer, were President Hervey of the Teachers College and Mr. C. H. Henderson of Philadelphia.

Although the Saturday morning discussion was on the topic, "Are we sacrificing the humanistic to the linguistic in the teaching of the ancient classics?" the question remained unanswered, as Principal Green of the New Jersey Normal School pointed out. Professor Bennett of Cornell illustrated in an interesting way how the linguistic implies and leads up to the humanistic, but most of the other speeches wandered off

to the general question of classical teaching and were, in so far, disappointing.

The general sentiment of the Association is decidedly liberal and progressive. Its good influences throughout the territory that it represents are very apparent, and in time a marked elevation in the secondary-school and college work in the Middle States will result from its activity.

The decision of the executive committee of the National Educational Association to hold the next meeting at Buffalo, N. Y., on July 7–11, 1896, is undoubtedly a wise one. It is not generally known how many and delicate are the negotiations that must be carried on before a decision can be reached that insures a successful meeting. Not only must the railroad rates be assured, but the method of administering the privileges granted, so as to protect the railroads from imposition and the Association from loss, must be carefully looked after. Because the officers of the N. E. A. assume the responsibility that belongs to them and co-operate cordially and effectively with the railroads to prevent abuses, no organization in the country stands so well with the transportation companies as the National Educational Association, and no other obtains so prompt and sympathetic a hearing.

The calm judgment of the board of directors, and of the other leaders in the work of the Association, did not sustain the first choice of those who were present at Denver to vote upon the matter of a place of meeting in 1896. It was pointed out that while California would undoubtedly make a most imposing and generous demonstration were the meeting held at Los Angeles, yet the officers and managers could not hope to secure an attendance of more than one thousand or fifteen hundred from east of the Rocky Mountains, the very next year after the great outpouring at Denver. This alone was a conclusive objection to holding the meeting at Los Angeles this year. The directors were overwhelmingly of this opinion. Duluth, as the second choice, was next considered. It had many and strong attractions, but was finally passed over on two grounds: first, because the Mississippi Valley teachers preferred an eastern point, and, secondly, because President Dougherty, after careful inspection, was of opinion that Duluth could not provide sufficient accommodations for such a great

assemblage as it is hoped to bring together in 1896. Asbury Park, as the third choice, was likewise passed over for the present, on the entirely good ground that having met there so recently as 1894, the local attractions of some other eastern point would probably bring a larger attendance.

Invitations of the most cordial and pressing character were received from Boston and from Buffalo. President Eliot, Secretary Hill, Superintendent Seaver, President Parmenter of the American Institute of Instruction, and other genuine leaders of New England's educational forces, were most enthusiastic. But the railroads were obdurate. They held that the usual concessions granted to the N. E. A. would, if made for a meeting at Boston, disarrange the entire summer tourists' business of New England. The selection of Boston, despite the strong preference expressed for it by the teachers of the West, was therefore impossible.

Buffalo, however, will be found to be a most attractive and accessible point, the more the facts regarding it are studied. The city itself is one of the most attractive in the country. It has excellent hotels and several large halls for meeting purposes. Niagara Falls is less than thirty minutes distant, while the beautiful lake country of Central New York, the rapids of the St. Lawrence, and the famous Adirondack resorts are not far away. Reduced rates will be given to all the attractive points on the New England and New Jersey coast. The educational development of Buffalo, too, is just now at an interesting stage. The first city in the country to have a superintendent of schools, to this day it has no board of education; and the superintendent is chosen by popular vote. Superintendent Emerson, who stands for better teachers and more efficient schools, and for the elimination of party politics from the system, has just been re-elected by a majority of nearly fourteen thousand, and the city is committed to his enlightened and progressive policy. Dr. Frank M. McMurry is achieving a remarkable success with the newly-established School of Pedagogy of which he is the head, while the State Normal School is co-operating cordially. It is worth while for the teachers of the country to study this new movement at Buffalo, to talk to its leaders, and to give it the stimulus and inspiration of their presence and approval. On December 4 the Central Traffic Association voted the necessary rates, and early in January similar action will doubtless be taken by

the Trunk Line Association. That the Association will meet at Buffalo may, therefore, be regarded as a settled fact. President Dougherty will be able to offer an unsurpassed programme, and the teachers of the country will cheerfully unite with him, Secretary Shepard, and Treasurer McNeill in putting the Buffalo meeting ahead of all of its predecessors.

The eminent statistician, Mons. E. Levasseur, has recently made to the International Institute of Statistics a report on the diffusion of elementary education which, in fullness and elaborateness, surpasses his earlier comparative studies of this very important development of the nineteenth century. Extending his investigations over all civilized countries of the globe, he finds that in all of them the promotion of elementary instruction has, in the course of the present century, gradually become the concern of the government. Among civilized countries Switzerland and the United States alone have no central administration of public instruction, leaving it to the care of the cantons and States. Many countries (France, Prussia, Austria, Hungary, Italy, Russia, Norway, Sweden, Denmark, Japan, most of the provinces of British North America and of Australasia) have a minister of public instruction; while West Australia, Nova Scotia, and New Brunswick have bureaus or superintendents of instruction. In Holland, Belgium, Spain, and Portugal the department of the interior has charge of education; in Great Britain the public schools are subject to inspection by the Education Department.

Compulsory and gratuitous elementary instruction has been totally or partially adopted in most civilized countries, especially in those under democratic forms of government, and great progress has been made in this respect in the last half century. Still, compulsory laws have often had little practical effect (as in Portugal, Spain, Greece, Turkey), but in some states instruction without compulsion is nevertheless very general: custom is stronger than law. The legal school age is usually from the sixth or seventh to the fourteenth year; in South European states from the sixth to the ninth. Gratuitous education does not always go hand in hand with compulsion; it is absolute only in Switzerland, Saxony, the Hanseatic cities, Norway, Scotland, Italy, Portugal, Roumania, Servia, Bulgaria, the United States, Canada, Mexico, and in most of the Central and

South American republics. Secularization of the common schools, toward which all civilized countries have been striving, has been carried farthest in France, Switzerland, and the United States, and among the German states in Saxony, Baden, and Bavaria; the movement has been least successful in Spain and Russia.

The modes of certificating and appointing teachers, as well as the salaries paid them, are of course subject to great variation in different countries; sixty-eight dollars, the annual pay of female teachers in the Swiss canton of Valais, seems to be the lowest on record; it is about equal to a high monthly average for female teachers in this country. The proportion of the sexes among elementary teachers has changed considerably within the last thirty or forty years; in most countries the two sexes are at present about evenly represented; countries where the number of women employed is small are usually backward in elementary education. In this country, where (as in Japan and some Australasian colonies) coeducation is also the prevailing system, the number of women teachers is exceptionally large. In France, mixed classes are looked upon as a make-shift, while among Germanic races they are not objected to in elementary schools.

M. Levasseur's comparative statistics cover many more points of interest, such as the construction and equipment of school buildings, the proportional increase in the number of schools, (by far the greatest in the United States), courses of study, preparation of teachers (Italy has, next to Germany, the largest number of normal schools), cost of public elementary education (Japan expends 50 million francs annually, France 173, Prussia 196, Russia 23; in 1880, the United States 767. Per head of population public elementary education costs France 4.5 francs; Prussia, 6.5; Russia, 0.25; the United States 12). He further discusses the various methods of taking the school census and of determining the proportion of pupils and of illiterates to the population. With rare exceptions, as many as 15 pupils to 100 inhabitants are found in Protestant countries only; in Greek Catholic countries, 5.5 is the highest ratio. In Saxony one illiterate is found among 10,000 conscripts; in Roumania 8900 out of 10,000 conscripts are illiterate. But we cannot dwell upon these details. All due allowance being made for the insufficiency of statistical methods in determining the results of education, the approxi-

mate relative advancement of elementary instruction in the civilized countries of the earth, as resulting from M. Levasseur's investigations, cannot be far from the truth. It is shown by the following order: First, the Scandinavian states, the German Empire, Switzerland; next, the colonists of European race, as at the Cape and in British Australasia; then, the United States; following these France, England, Belgium, Holland; lagging somewhat behind, Austria, Hungary, Italy, Spain; and last, the Slavonic East-European nations (Russia, Servia, etc.) and the Central and South American republics.

The Eastern Association of Physics Teachers is taking a lively interest in the adjustment of college entrance requirements in physics. A committee of five, from as many representative schools in the Association, has been appointed to prepare a report on the matter, which will embody such suggestions as they may deem wise to offer. In their effort to secure equitable requirements, and to devise a course of laboratory work which will meet with the approval of everyone concerned, this committee desires the hearty co-operation of all who are in any way interested in this most important work. Since the physical laboratory work in secondary schools is rapidly becoming of increasing importance, the importance of the contemplated revision is obvious. All teachers who are interested in the matter, and who wish to have their views considered, are invited to communicate with the secretary, A. B. Kimball, English High School, Worcester, Mass.

Dr. Harris's report on the correlation of studies received the high compliment of publication in full, in German translation, in *Pädagogisches Archiv* for November and December, 1895.

President Baker of the Department of Higher Education of the N. E. A. has designated the following committee of five to co-operate with a similar committee from the Department of Secondary Education in inquiring into and reporting upon the possibility of equalizing, and reducing to some kind of unity or standard, the requirements for admission to college:

Professor Nicholas Murray Butler of Columbia College, Professor Paul H. Hanus of Harvard University, Professor B. A. Hinsdale of the University of Michigan, Professor James E. Russell of the University of Colorado, Principal John T. Buchanan of the Kansas City (Mo.) High School. The five members of the Committee from the Department of Secondary Education are Principal W. H. Smiley of the Denver (Colo.) High School, Assistant Superintendent A. F. Nightingale of Chicago, Professor William Carey Jones of the University of California, Principal C. H. Thurber of the Morgan Park (Ill.) Academy, and Principal J. Remsen Bishop of the Walnut High School, Cincinnati. It is believed that each one of the ten members of the committee has had personal experience in secondary school work, and five of them are now college professors; four of the five holding chairs of education. This insures a more catholic and scientific consideration of the relations between secondary school and college than is possible by committees made up of college professors whose knowledge of the problem and interest in it are limited to a single department of study.

The programme that President Jones has prepared for the Jacksonville meeting of the Department of Superintendence remains substantially as outlined in this REVIEW two months ago. "Problems of detailed supervision" occupy the session of Tuesday morning, February 18, the chief speakers being Superintendent Babcock of Oil City, Pa.; Assistant Superintendent Delano of Chicago, and Superintendent Sutton of Houston, Texas. On Tuesday afternoon Professor Hinsdale of the University of Michigan and Superintendent Evans of Augusta, Ga., attack the rural school problem; on Wednesday morning Dr. Harris, Superintendent Gilbert of St. Paul, and President De Garmo have papers on "Coordination, correlation, concentration"; on Wednesday afternoon, Dr. E. E. White of Columbus, O., will present a paper on "Isolation and unification as bases of courses of study," to be followed by Dr. W. N. Hailmann and Superintendent Whitney of East Saginaw, Mich.; on Thursday morning Professor Tompkins of the University of Illinois, Superintendent Soldan of St. Louis, and President Baker of the University of Colorado, will discuss "Ideals in education," and on Thursday afternoon there

will be a series of Round Table discussions. The evening speakers are President Schurman of Cornell, Inspector Hughes of Toronto, and Dr. J. L. M. Curry of Washington.

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Education,	Boston, Mass.
Iowa Normal Monthly,	Dubuque, Ia.
Michigan Moderator,	Lansing, Mich.
New England Journal of Education,	Boston, Mass.
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School Education,	Minneapolis, Minn.
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Teachers Institute,	New York, N. Y.
Texas School Journal,	Austin, Tex.
Western School Journal,	Topeka, Kan.